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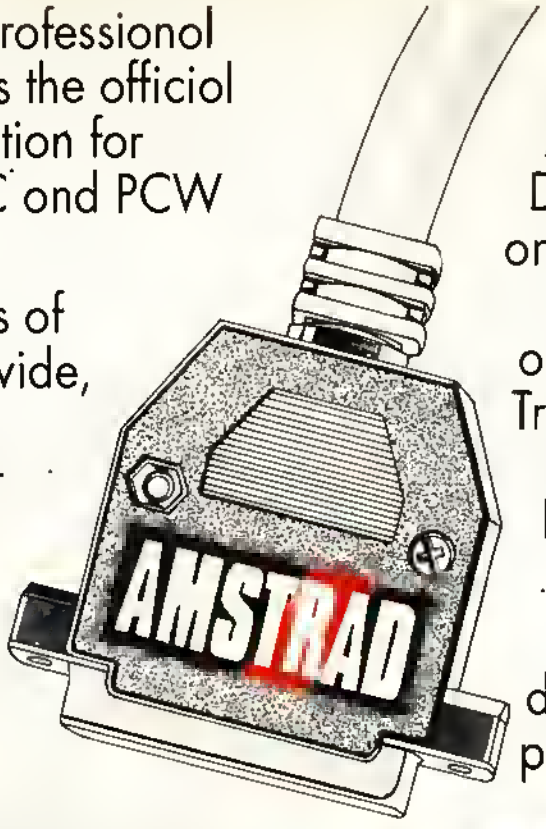

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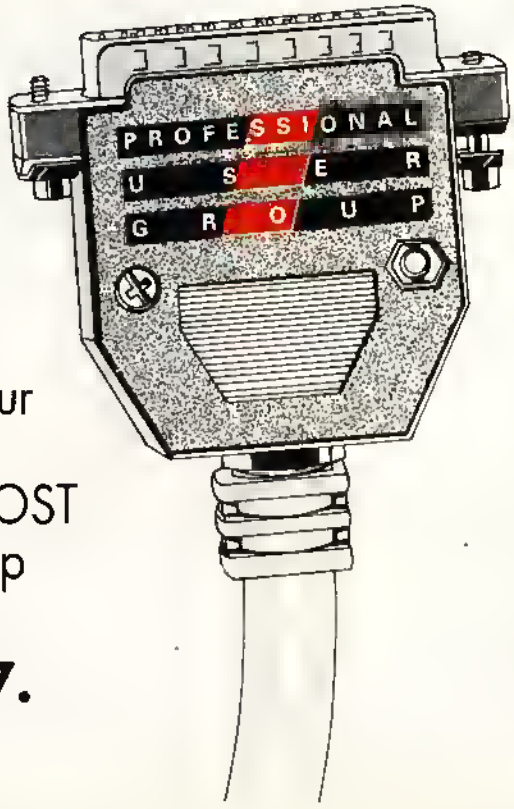

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AMSTRAD PROFESSIONAL USER GROUP

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FOREWORD

Alive and kicking

8000 Plus is now well into its fourth year and still, each morning, the familiar thud of the bulging 8000 mailbag landing on the editor's desk signals a temporary halt in the day's proceedings. It's nearly always a welcome interlude.

The PCW, it would appear, is continuing to make its presence - and its benefits - felt. And in unusual and increasingly diverse ways.

From what we can see, 8000 Plus readers defy easy categorisation. As well as an interdenominational core of priests, vicars and rabbis, we've got thesis-writing students, number-crunching accountants and family historians who can trace their ancestry back to William the Conqueror.

Then there's the star-gazing astronomer contingent who blanch at the mere thought of being even so much as mentioned in the same sentence as their astrologer cousins.

It's precisely this kind of variety that makes 8000 Plus very different from any other computer magazine you'll find on the newsagents' shelves. It's your combined input that continues to make Post Script, Listings and, particularly, Tipoffs the most popular pages in the magazine.

Whether you're using your PCW to produce parish newsletters, to write your latest novel or to run your business, it's clear that there's plenty of life left in the old machine yet. Amstrad's recent spate of prime-time TV advertising bears ample witness to that.

So the next time someone with a bigger and possibly faster machine tells you that the days of your PCW are numbered, turn up your collar and think of the latest wave of hardware add-ons hitting the PCW market.

We hope that you'll continue to share with us news of your breakthroughs and the fruits of your labours well into the new year - and beyond.

So Merry Christmas, everybody - and on with the show!

Sharon

Competition winners

Last month's Typo competition has been won and what's more we're even going to tell who the winners are. Each of the three skilful victors will be receiving an Iankeys Typing Tutor double pack. The packs not only contain the Iankeys Typing Crash Course but also the Two Fingers or Touch Typing Crash Course. The problem we posed was to get from the word TYPO to the word TABS in three movements and by changing only one letter per move. Unbate your breath; here are the names.

J B E Say of Colchester came up with the unusual solution **Typo, tyro, taro, tars** and **tabs**, and wins first prize.

The other two winners were K D Fisher from Cheadle and Toby Thompson from London. They used the more popular solution of **Typo, type, tape, taps, tabs**. Well done to all three and hard luck to the other few thousand entrants. A new competition awaits you on the inside back page of this issue. It's your chance to win Micro Design 2.

Speaking in chips

SM Engineering of Pevensey, East Sussex have produced an upgraded model of their Speech Synthesiser module. We reviewed the original model in March and came up with a few quibbles. SM tell us that they have made the following improvements to the module.

Instead of being a simple naked board, the unit now comes in a purpose-made steel box. You no longer have to use SM's own I/O (Input/output) interface because the unit should work with any Serial/Centronics interface. As a final improvement, there are only two plug-in cables to ease the process of connecting up the machine. Also supplied with the unit are a power supply and speaker.

The unit is controlled by use of Basic listings and SM tell us that the new manual which accompanies the product contains several examples.

The price of the unit is £35.00 including the manual and power supply. For more information contact SM Engineering on 0323 766262.

SM Engineering have upgraded their speech synthesiser module

NEWS PLUS

by Tim Smith

Capital City

Amstrad have not had a good year. Due to various 'deals gone bad', 1989 became the first fiscal period in the company's twenty year history in which they made less than astronomical profits. To put this in some kind of perspective, it should be made clear that 1989 profits were £76.6 million before tax. Compared to 1988's £160,406 million there is most certainly a downturn in Amstrad's fortunes. But is it as bad as city pundits believe it to be?

It is true that the PC2000 series of machines caused the company some headaches. Faulty hard disc controllers were to blame there and Amstrad were forced to recall the lot.

It is also true that an investment in semi-conductor makers Micron is now worth two-thirds of its original value.

These are just two factors in the tarnishing of Amstrad's previously shining exterior. The question which a number of financial analysts have been posing is whether Sugar will sell off parts of the company. This seems highly unlikely to say the least. One year of unmaximised profits does not a company crash make.

In order to cope with all of this, Amstrad have been carrying out quite a major rethink. New management has been recruited from companies as diverse as the Mars corporation and Gillette. This at least shows a slightly less parochial view than had previously been held within the company.

A new subsidiary called Amstrad UK has been set up. This frees some top management to concentrate on Europe, the United States and Australasia. It shows a realisation on the part of Amstrad that the UK is simply *a* market as opposed to *the* market. With this in mind, the company have set up a central warehouse in Rotterdam (a mere clog's throw from the Essex coast).

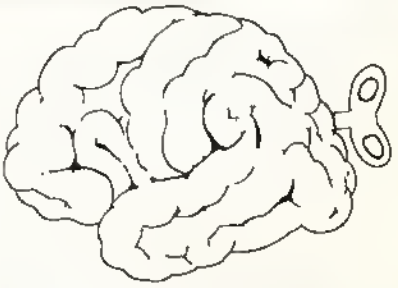
So with all this movement, where does the PCW stand? If you have been reading your Sunday papers and watching the television, you will have seen advertising for the PCW9512 and cut sheet feeder. This can only be good news for the those people who already own a PCW.

But if the 9512 is being pushed, does this mean that the 8000 series is for the chop? This is the question we put to Amstrad's public relations man Nick Hewer:

"When we pushed the 8512, people thought that meant the death of 8256 - which didn't happen. We have no plans for the PCW other than to keep on selling them. They have been doing very well indeed."

With at least 600,000 PCWs already up and running in this country alone, it seems that the future of the machine is assured.

Alan Sugar with one machine which hasn't caused him bother



Dingbyte: What is the computer related word or phrase? No prizes but the answer's on page 8.

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Access VISA

Strange enhancement

The Mini Office Professional Plus saga drags on. Earlier this month we received a press release from Database Software which trumpeted an 'enhanced version of a bestseller to be launched for the PCW'. The release went on to inform us that, "... it combines all the best features of the original title (Mini Office Professional) and all the major enhancements of its successor, Mini Office Professional Plus, but excludes the spell checker and thesaurus. The new package will also include All in One Business Computing, the book by John Hughes worth £11.95, plus a new user guide and a quick reference guide." It continued, "Spell checker and thesaurus modules will be made available to purchasers of the updated Mini Office Professional for an additional £10."

All this for £39.95. Well, this sounds suspiciously like the Mini Office Professional Plus which we reviewed in the September issue. The only enhancement seems to be that Database have removed the spell checker and thesaurus. On phoning Database we were told that the changes had been made in order "To catch the Christmas market and because there were so many problems we have not included the spell checker and thesaurus."

An interesting point to note is the fact that the version of Mini Office Professional Plus which we reviewed and which did include the two now-missing modules also sold for £39.95. John Hughes' book, the new user guide and reference sheet also accompanied this package.

The person to speak to at Database for more information is Chris Payne on 0625 878888.

An enhanced Mtnl Office Professional Plus? Yes, they've taken bits away

Is it a bird? Is it a plane?

No it's PCWSuperDOS from Encyclosott. Many of our readers will be aware of CP/M, the computing side of the PCW which comes on your systems discs. Many people find it untriendly or plain complicated and so don't make full use of it. This is where SuperDOS comes in. The DOS part of the name stands for Disc Operating System and is aimed at replacing the 'unfriendly' CP/M A> prompt.

Encyclosoft claim the following improvements.

The A> prompt is replaced by a desktop environment closely modelled on LocoScript's disc management screen. It introduces four new 'built-in commands' including COPY and IFNOT which the company maintain will be usetul in batch files (we assume they mean Submit files). SuperDOS also includes a built-in text editor for keeping reminders and to-do lists. The system will require 512K of memory and, unlike CP/M, it has not been designed with hard disc users in mind.

Aside from these two caveats, the system sounds like one of the most exciting developments for the PCW market for quite some time. If it runs according to the specifications given, it may well open up the non-LocoScript side of the PCW to users who would not have dreamt of using it. At the time of going to press, Alan Paterson of Encyclosott was in Germany and unavailable for comment. The package should be on sale from December 11th at £29.95. The company provides an added incentive to the prospective buyer with a utility called PTR.COM for 8256 and 8512 owners.

This program provides a second printer command line at the bottom of the screen. This will contain information on current paper settings and printer codes (bolds, italics etc) all of which, according to the company, can be changed at will. PTR.COM costs £7.95 or, if ordered with SuperDOS, £34.95.

Contact Enyclosoft on 0270 811890.

CLUB NEWS

The PCW World's your oyster

A rather smart press release hit the Club News in-tray this month. Printed out using what we can only assume is a freshly re-inked ribbon (50p a shot for members) it comes from PCW World User Group. This group of PCW users are based in Cradely Heath in the Black Country.

According to founder member Gerry Austin, the club now has well over 300 members and is "...growing at a rate of 50 new members a month." The club offers such facilities as laser printing for a price, as well as ribbon re-inking. Gerry says, "While our prime intention is to advise and save money for PCW World members, our goods and services are available to all, but we must charge non-members the commercial rate. These are, however, just about the cheapest you will find."

PCW-World 's newsletter, very smart and issued quarterly. You'll be well chuffed.

The club also carries a large Public Domain software library. This is said to contain well over 70 discs with more new titles coming in every month. Members get free access to this service (aside from the price of a disc) while non-members will need to pay an additional £1 copying fee. The library contains files as diverse as graphics utilities and the King James version of the Bible.

8000 Plus readers of a technical/programming bent will be pleased to know that Geoffery Childs is a member and 'technical adviser' to the club.

Aside from all of the above mentioned goodies and services, PCW World also publishes a rather impressive-looking quarterly review which is output from a laser printer. Members are actively encouraged to contribute to this journal.

Membership costs £9.95 per year. If you would like to find out more about what would appear to be quite a professional outfit, you should call PCWWorld on 0384 66269 or send an SAE to: PCWWorld, Cotswold House, Cradely Heath, Warely, West Midlands, B64 7NF.

Fun while it lasted

Mike Zanker of the Leeds PCW Bulletin Board wrote to us with some sad news. Due to the fact that he has moved to Newcastle to study at the University he has had to close down the board. It seems that he could not find accomodation which offered a telephone line. As far as we know this leaves the north of England bereft of any on-line club support. Is this true or is there anyone out there who can help?

Pssst it's the Windsors

The Windsor Bulletin Board User's Club has expanded, meaning that the group is now open to anyone. The club has access to a vast supply of good Public Domain Software as well as a 250MB CD ROM collection of their own. Contact Peter Cately at 11 Hasiemere Road, Windsor, Berkshire, SL4 5ET.

Drive me wild

The one thing which the PCW has never had has been a 3.5" drive. The 3.5" disc format is fast becoming the industry standard. Discs come in a hard plastic case, similar to those which the PCW owner will be used to.

Compact Micro of Bradford who have been making 3.5" drives for the Amstrad CPC are now marketing the same for the PCW. Phil Craven from the company says that at £94.95, one of these devices would be the cheapest way of adding a B: drive to your machine. This price secures you a cased, cabled and ready to fit drive. At the moment the price difference between 3 and 3.5" discs is minimal - if any. But with more and more machines such as the Macintosh and many PC clones making use of the format, the price is set to drop.

If you wish to find out more about Compact Micro's offer you should call Phil Craven on: 0274 636652. We haven't seen one of the drives as yet but as soon as we do....you'll know too.

Clear as a bell

Exemplar Design who specialise in desktop publishing add-ons for the PCW have brought out a new font collection. This one is for Micro Design 2 and is called MD Cleartext.

John Evans who runs Exemplar Design says that MD Cleartext "..is the first Micro Design 2 font collection to provide consistentt printing resolution for all users of the 256k page format.". He goes on to say that, "Unlike Micro Design's own fonts, ours are matched to the dot resolution available on the dedicated PCW dot matrix printer." This means, according to John, that you can produce clear text with the PCW.

Along with the various fonts available are sets of accented characters for use in customised character sets. The cost of this addition to an already excellent desktop publishing package is £13.50. If you would like to find out more about Exemplar Design you should call John Evans on 0225 315131.

More games

Artronic who have just brought out the four game compilation PCW Challenge are launching a new adventure games package. Included in this are three games called Lost Legacy of Xim, A Simple Case of Espionage and Sir Lancelot.

The compilation should be released by the time you read this and will cost £14.99. It seems like a fair price.

Pommie winners

Headline Communications, the creators of Reeltime Audio training packages, have secured a strong deal which should establish them and the PCW in Australia.

Free copies of a Reeltime audio cassette package will be included with every computer sold in Australia.

Greg Wilkinson of Reckon Software who are the distributors down under says "We're confident that the Reeltime courses will revolutionise computer training in Australia".

Headline goes down under.

Additonal fonts for the already well-endowed Micro Design 2 from Exemplar Software

Joining up

Verran Electronics are a new name in the PCW world and they look as it they've come up with a good idea. It is called the Verran AC datalink. The datalink allows computers to be linked to peripheral devices such as printers or modems without the bother, and expense of specialised cabling. The unit is heralded by the company as "the computer product of the 90s". It is basically an intelligent mains plug. One such unit is plugged into each computer or peripheral to be linked and then built-in microchips with their own smart software make it possible for coded data to be transmitted down the mains cables without interference.

The AC datalink has been designed and tested in the UK to conform to the appropiate British Standard (BS415). This means that each unit is designed to cope with voltage spikes and fluctuations in current.

Data is sent via the mains supply in a stream of 'packets', Each packet contains control information and bytes of data.
To cope with potential interference, the unit checks conditons continously and uses error-correction sottware. Several links can be achieved in one building by setting swilches on the AC datalink to provide different addresses. You can even set security codes to make unauthorised 'listening in' unlikely.

The Verran AC datalink looks to be a cheap low-end way around the debatable LAN or Local Area Network systems beloved of small business who don't really need them. At the time of going to press we hadn't seen any of the devices in action, but we hope to remedy this state of affairs in the near future.

Each unit will cost you £175 and more detailed information can be obtained by writing to Verran Electronics Ltd, Cedarwood, Chineham Business Park, Basingstoke, Hants, RG24 0WD.

Answer to Dingbyte: Artificial Intelligence

SNIPPETS

Sexist digs

Oasis is a national organisation whose aim it is to combat sexism in software. There doesn't seem to be a great deal of that about in the PCW market (*well, there is one strip poker game*) but the idea is a sound one. It costs £3.00 to join and members receive six magazines a year into the bargain. If you would like to find out more about Oasis you should send an SAE to Sandra Vogel, 3 Alden Court, Stanely Road, Wimbledon, London, SW19 8RD.

OASIS
ORGANISATION AGAINST SEXISM IN SOFTWARE

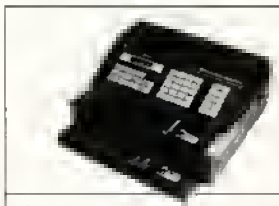
A pool in the desert of MCPisms?

Music to your ears

EMR have opened a Computer Music Learning Centre or CMLC in Southend. The centre should be well-equipped with state of the art hardware and software. For more information call 0702 335747.

For the bod who has everything

The strange device you see pictured below will only set you back £4,895 and is a Total Site Universal Programmer. It has nothing to do with PCWs but a press release was sent to us. So to mark the death of a few more trees, we thought we'd print the picture.



It's big, it's bad ... what on earth is it?

Second opinion

Would you like to air your views aodut certain products? We are aiming to produce some extended features on subjects close to the hearts of our readers. We are planning a word processing feature and need to hear from users of the following software.

WordStar and Pocket WordStar, Newword, Tasword and any public domain word processing software. If you would like to be used as an expert source please write to the following address:
Second Opinion (WP), 8000 Plus, 4 Queen Street, Bath, BA1 1EJ. We look forward to hearing from you.

"The Rolls Royce of PCW desk-top publishing"

Amstrad PCW magazine, July '89.

MICRO Design 2

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- Runs on PCW8256, PCW8512 and PCW9512.
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- Gives very high quality printed output using the internal dot-matrix printer, or an external 9-pin, 24-pin or laser printer (HP laserjet+ compatible).
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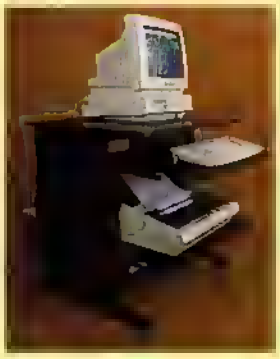

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DATA-BASICS

To rephrase an old saying for the new age: information is power. Databases can offer one of the most efficient means of extracting the power from information held on your PCW. Tim Smith takes a tour of the options and gets sorted out

Put simply, a database is a computerised card index box. Like a card box, it stores information in an organised manner. But since when could a card index box print out selected details, search and find key words or put data into a typed page or spreadsheet? 'Never' is the simple answer.

A database takes the hard work out of filing, sorting and, most importantly, retrieving information. One side of a blank A drive disc is capable of storing up to 143,000 characters. That's a lot of cards.

One problem that manual storage and retrieval systems pose is the difficulty the user faces when it comes to cross-referencing information. You might, for example, have a paper file which contains details of your personal library. Say you wanted to locate all those books that include mentions of Czech lovers. If the card index was referenced by author's name, then you would have to search through the whole lot. With just a few entries in a card index system, even a small search can be time-consuming. With only a few more entries, the whole exercise can be transformed into a nightmare. A good database, on the other hand, can perform efficient cross-referencing in seconds with the help of a few wisely-selected words.

Important and Exportant

Finally, once you have been using a database for a few months, you will probably have amassed and stored a lot of important information. And you will want to do more than just look up information by calling it onto the screen. With LocoScript and Protext, Ascii files can be produced from database files and then data can be exported to other systems. This is invaluable when you use spreadsheets, desktop publishing or mail-merge packages – the concept of the paper-free electronic office revolves around readily portable information. Make sure you take a look at the import/export facilities offered by databases before buying.

CAMBASE II

£49.95 ● Cambrian Software ● 0766 831878

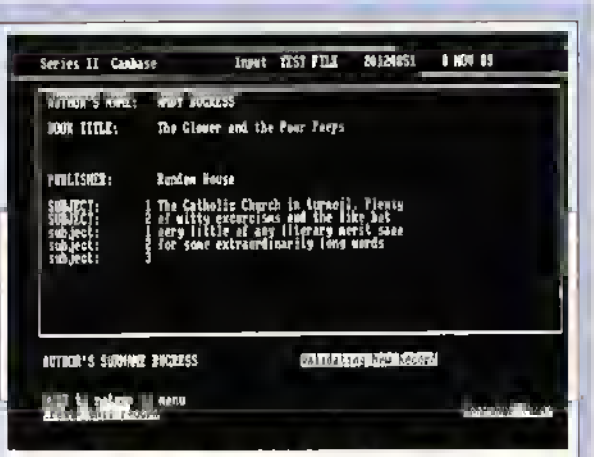
Cambase II is a database packed with good ideas. It allows quite a free hand, for example, with the setting up of your records (the electronic cards). You are allowed up to 39 fields per record each one of which can be defined as alpha or numeric. It also allows you to design where on the screen the information and prompts are to appear when the software is used, as well as on the printed version, or hard copy. If you are in the market for tidy printouts, Cambase could be worth looking at.

This freedom can appear quite daunting to begin with. You have to go through an involved set of routines when defining record templates, or 'filspecs' as Cambase calls them. (With most databases, it's usually a good idea to sit down with a pen and paper to plan your record templates before touching the keyboard.)

Cambase has three unique functions: **Narratives**, **Processes** and **Loops**. The explanations for these in the manual are confusing to say the least. The good news is, however, that Camsoft provide one year's full telephone support for registered users, which should help you get to grips with information-handling the Cambase way.

The Cambase functions are, in effect, powerful formatting tools. The serious database user will certainly find them useful. A **Process**, for example, is much like a mini-program which takes its input directly from a file or from additional user input. **Narratives**, which are basically saved phrases, can also be used as input. Cambase **Processes** allow you to print labels, carry out short calculations and find averages using the data which you have stored.

Cambase II has plenty to offer as a basic database.



Cambase II. More than a mere database, this program contains some very powerful features

CAMBASE II

PLUSES	MINUSES
▲ Good templating facilities using Filspec	▼ Makes no use of memory so not for 8256 users
▲ Powerful Loop and Process features	▼ No in depth coverage of advanced features

RANGE OF FEATURES	4/5	EASE OF USE	3/5
PERFORMANCE	4/5	DOCUMENTATION	3/5

8000 PLUS VALUE VERDICT 14/20

Roll me overlay, me down and do it again

Both Cambase and Masterfile make good use of overlays. These files, recognisable by their .OVL filetypes, are separate but important parts of the main program. Program files run in an area of memory called the TPA or Transient Program Area. All PCWs have a TPA of 61k. If a program is too large to be run as a whole within the TPA, then it can be split into segments. The main section is the .COM file, while subsidiary parts are the .OVL overlays which can be called into the TPA when required. The only time you might notice this is when a message appears on screen saying something like 'Please wait...loading program'.

CHIBASE 3.0

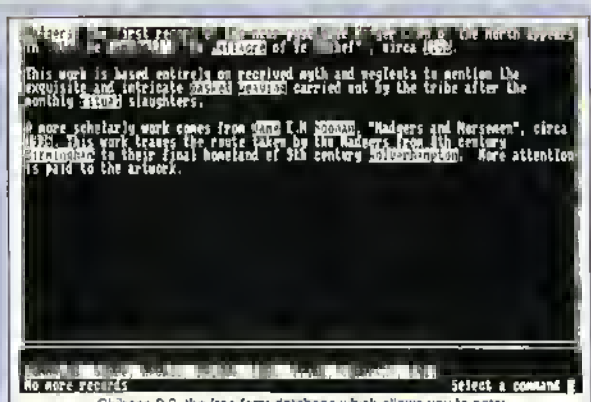
£29.95 ● Chiasma Software Systems ● 0633 60996 / 01 399 9758

Chibase 3.0 represents a very healthy departure from the traditional card index view of databases. It labours under the name of 'free-format database'; this means that instead of entering selected data – like a name and address – into a templated 'card', you type ordinary passages of normal text – like a recipe – into an editor and mark out a series of keywords. These keys are then used by the PCW when it comes to retrieving selected data.

Installing Chibase can be a bit of a nightmare, as the procedure is long and involved. A good idea is to make a straightforward copy using NSWP or DISCKIT and then follow the instructions in the manual. Don't worry – such copying only becomes piracy when you pass the discs on to a second party. Once installed, the program has immense potential.

Text you have previously produced using your favourite word processor can be imported into the database in Ascii form. New text can be entered directly using the friendly built-in editor. Creating keywords could not be easier. You simply move the cursor over the word you require and press the [+] key. Repeating this over the same word will lose the highlight again.

Chibase allows you to create a database as big as 500k in size but it is recommended that you do not exceed 150k. Beyond this size the search facility slows down and you are in danger of getting those annoying 'disc full' messages. Creating the database will require some preplanning. For example, you have to tell the system what size you wish your average record to be. If you are using Chibase to store magazine articles or academic reference material, it is a good idea to precis the text as you enter it.



Chibase 3.0, the free-form database which allows you to enter information like a word processor

The freedom of use and range of utilities which Chibase offers set it up as a most powerful – and unusual – program. It will prove a boon to anyone who must process the kind of information that consists of passages of text rather than mere disjointed snippets.

CHIBASE 3.0

PLUSES	MINUSES
▲ Excellent text import/export	▼ Won't run from the M drive
▲ Good for book indexing and academic work	

RANGE OF FEATURES	4/5	EASE OF USE	4/5
PERFORMANCE	4/5	DOCUMENTATION	3/5
8000 PLUS VALUE VERDICT		15/20	

MASTERFILE 8000

£49.95 ● Campbell Systems ● 0377 77762

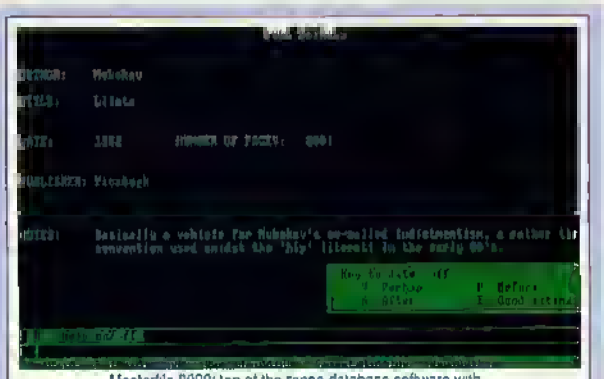
Masterfile – as Miss Jean Brody would put it – must take its place among the creme de la creme. The installation process consists of making a back-up copy of the program disc. This is followed by clearing the M drive and putting the copied disc into drive A. Simply type **MF8000** and you're away.

Masterfile is what is known as a relational database. Up to eight files can be cross-referenced and linked so that information can be ported from file to file. In previous versions of Masterfile, this linking ability was only really useful in display and printouts. The latest version also offers the facility to calculate fields from different files. These two functions push Masterfile to the top of the list in terms of a business database.

As an example of this relational power you might have one data file consisting of suppliers and prices and another containing customer records with details of items bought. Instead of having to calculate the invoicing for each customer record (each separate customer will have a single record) you merely get Masterfile to read the cost of each item from the first file into the second. You can add VAT rates, discounts and special offer prices to the calculation. Voila! Job done. With 1992 coming up, it should be no bother to include exchange rates as well.

The only danger note concerns 8256 owners with unexpanded machines. Masterfile is restricted by the size of the M drive. The program itself makes use of overlay files from disc.

Not only does Masterfile enable you to manipulate your data in calculations, its outputting and display abilities are also very versatile. Once you have input the data, you can



Masterfile 8000: top of the range database software with impressive graphics features

clarify or prettify the layout using up to nine pre-determined formats. Essentially these are templates for your data. Aside from the default format (0) you have a wide range of choice in your design. You can use boxes, large character headings, and grids. You can even improve the pixel definition for screen display. Most impressive.

MASTERFILE 8000

PLUSES	MINUSES
▲ Makes use of relational files	▼ Not suitable for 8256 users; no use of M drive
▲ Great for flashy printouts and screen displays	

RANGE OF FEATURES	5/5	EASE OF USE	5/5
PERFORMANCE	4/5	DOCUMENTATION	3/5
8000 PLUS VALUE VERDICT		17/20	

Exits and entrances

With Chibase it is imperative that you use the L command to quit. There is no point simply pulling the disc out of the drive and switching the PCW off. This is because of the way Chibase handles its files. All the index files it uses are lost unless you lock them by use of this command. Once an index file is lost the program has no idea where to start looking for information. Luckily there is a rebuild facility if powercuts or mistakes do occur.

MINI OFFICE PROFESSIONAL PLUS

£39.95 ● Database Software ● 0625 878888

One of the most successful of the Mini Office suite of five programs is the database module. It works on a fairly straightforward card index system. The screen represents one record (or card) per subject.

You can, however, define a record layout to your taste using the quaintly-named Paint screen. This enables you to centre, underline and create text of different sizes. What makes the definition process even easier is the fact that it is carried out with the cursor keys. You move from field to field adjusting the length of each one with the left and right keys.

Generally speaking, producing a reasonably good looking and effective database with Mini Office shouldn't be a problem. The only point to note is that leading spaces are retained.

Where the Mini Office database really does score over its rivals, with the exception of LocoFile, is its ability to port data into and out of its own mailmerge facility. Calculations can be carried out using the Formula function. For the small business or club this can be invaluable. For example, the club secretary who has to mailshot members about a subscription rise can use a combination of mail merge and formula facilities to produce precise printouts.

The Search and Sort facilities are useful, but do take a little getting used to. You find yourself leaping from screen to screen in order to view information. The most useful ability is the use of wild cards (asterisks) in the search fields.

Most of the functions are carried out using the cursor keys which makes Mini Office one of the simplest databases to use. It is as far removed from the 'program your own' type of database (as illustrated by the dBase range) that you could possibly get. Once you have made up your mind to conquer the idiosyncrasies of the Mini Office package, you will discover an excellent database.

Mini Office offers a good basic card index system. The main advantage of this database is that the information can be used with the word processor's mailmerge

MINI OFFICE PROFESSIONAL PLUS

PLUSES	MINUSES
▲ Easy to design and use	▼ Documentation not what it could be
▲ Has own mailmerge system	▼ Bad support

RANGE OF FEATURES	4/5	EASE OF USE	4/5
PERFORMANCE	4/5	DOCUMENTATION	2/5

8000 PLUS VALUE VERDICT 14/20

Make it easy on yourself

To save you forking out for a database for your Christmas card list you can always use the FIND/EXCHANGE facility in Protext and LocoScript.

AT LAST PLUS

£39.95 ● Rational Solutions ● 056681 511

At Last Plus has been a PCW stalwart since its first incarnation as Database Manager (At Last). The reason for its longevity is its quality. Rational Solutions call it a semi-relational database. A true relational database can cross-reference data between files.

At Last Plus makes use of 'forms' which are different versions of the same file. Its cross-referencing occurs across these forms. This is still a useful function to have on board owing to the fact that different forms can contain more or less detailed data fields about the same information.

The first thing to do if you decide to buy At Last is to find a quiet corner, sit down and read the manual carefully. After doing this, terms like 'SYS file', 'Constant field' and 'Serial Field' will start becoming clear to you.

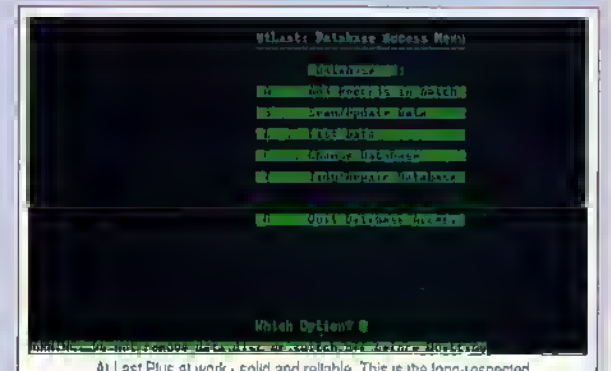
The SYS file is the backbone of your database. It contains the raw format, record size, field names and types, which will be used to feed data into the other formats. The SYS file needs to be planned with some precision.

Once the SYS file is set up, you move on to the first of ten possible files which can exist alongside it. Basically the SYS file is the parent while any subsidiary files you create become closely related children. Any other file created apart from the SYS file can make use of Serial and Constant field types.

A Serial field is one which is assigned a reference number by At Last. This number then acts as a key for that particular record. As an example, this makes assigning club membership numbers much easier.

A Constant field is one which takes its data from a field or element of a field held in the System file. This saves on future re-typing of the same information.

At Last is a powerful database which is particularly good at handling name and address files. This facility will be enough to place it near the top of the pile for those people who need to keep club or society membership files up to date on a regular basis.



At Last Plus at work - solid and reliable. This is the long-respected database workhorse for the PCW

AT LAST PLUS

PLUSES	MINUSES
▲ Good semi-relational record linking	▼ Can't carry out calculations
▲ Excellent formatting options	▼ Manual is a little confusing

RANGE OF FEATURES	4/5	EASE OF USE	4/5
PERFORMANCE	4/5	DOCUMENTATION	3/5

8000 PLUS VALUE VERDICT 15/20

Indexterity

Most databases make use of indexes or index files. At Last calls these IDX files. These work for the PCW in the same way as indexes in the back of books. For example, if you wanted to find references to Mad McMad clan in the Ratcatchers' Journal you would turn to the index and begin your search at the first page entry for Mad or McMad. The index files are also the first thing a PCW turns to in its search for specific records.

LOCOFILE

£29.95 ● Locomotive Software ● 0306 740606

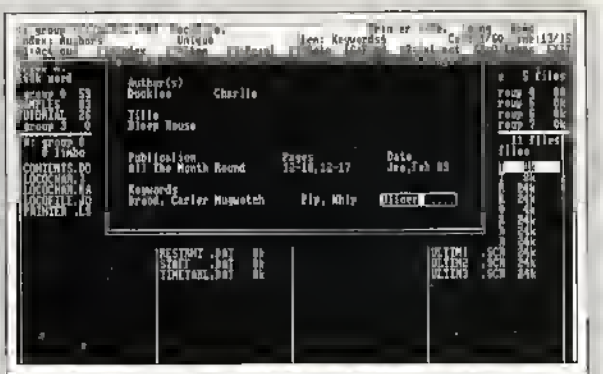
Probably the most familiar of all the PCW databases, LocoFile fits into the card index box format. The first thing to note about it is that it runs under LocoScript 2. If you have LocoScript 1, you will need to upgrade before you can make use of LocoFile.

As with all Locomotive products, LocoFile works on the pop-up menu system. It is also compatible with any of the other products from the range. This can either be a plus or a minus depending upon your view of the PCW. The manual which accompanies the disc is, as you would expect from Locomotive, straightforward and clear. Even the installation process, which causes so many other databases to appear clumsy, is quickly over with.

To save you having to follow the manual blindly there are also several example databases which help familiarise you with the format. The only real change that LocoFile makes over other databases is the fact that it insists on calling fields 'items'; still, a rose by any other name...

LocoFile has also been set up to make the most use of the PCW keyboard layout. For example, the [TAB] key moves you from item to item, the [PAGE] key moves from record card to record card. There is very little learning to be done before you get into your first database.

LocoFile makes use of keyed items; there can be eight of these per record. The order in which record cards are viewed is dependent upon which one of the items you have chosen to be the key. Changing the indexing is easily done by use of the t2 ([SHIFT]+f1) key. This brings up another menu which lists the keyed items in the present file.



LocoFile means never having to leave the Disc Management Screen. What more do you need? Ease of use and power in one go!

Aside from its ease of use, the other outstanding feature of LocoFile is that records can be easily ported into LocoScript and LocoMail documents. You need never step outside LocoScript again. Given its user-friendly nature and the ease of start-up, LocoFile is quite probably the best database for avid LocoProduct users.

LOCOFILE

PLUSES	MINUSES
▲ Runs from LocoScript 2	▼ Runs only from LocoScript
▲ Very easy to use	▼ Can be a little slow

RANGE OF FEATURES	4/5	EASE OF USE	5/5
PERFORMANCE	4/5	DOCUMENTATION	5/5
8000 PLUS VALUE VERDICT		18/20	

Pah humbug!

There are two courses of action to take if you hate paying vast sums for database software. Turn to your CP/M disc, boot up Mallard Basic and write your own. Mallard makes good use of Jetsam which is an excellent file handling system. If you can't be bothered then the Public Domain has plenty to offer in the way of databases.

Off the record, John

Most databases make use of terms that are easy to get mixed up. Here's the stripped-down 8000 Plus explanation:

A FIELD: The smallest unit of information.

A RECORD: The medium unit of information. It's made up from a group of FIELDS.

A FILE: The largest unit of information. A group of related RECORDS.

In the case of a manual card index, the plastic box itself is the file, the cards are the records and each separate entry on a card is a field.

Database software acts as the referencing, sorting and retrieval system, doing the work of your brain and fingers.

	MAX FILE SIZE	MAX RECORDS TO FILE	MAX FIELDS TO RECORD	MAX FIELD SIZE
LOCOFILE	Up to 819k (usually limited by disc capacity)	Limited by file size	Up to 50	Up to 88 columns wide + 99 lines long
MASTERFILE	Limited by size of M drive	Limited by file size	Up to 84	254 characters
CHIBASE	500K	Limited by file size	N/A (free-form)	N/A (free-form)
CAMBASE	Limited by disc capacity	Limited by file size	Limited by file size	Limited by file size
AT LAST	Up to 4 MB (usually limited to disc capacity)	32,767	20 (also 99 elements per field)	Dependant upon type: max 79
MINI OFFICE	Subject to disc capacity	Limited by file size	Limited by file size	72 characters

RANK AND FILE

When it comes to examining those LocoScript discs, Lindex will supply you – at the press of a button – with all the information you need

LINDEX

£7 ● Festival Software Services ● 0274 613300 ● All PCWs

One of LocoScript's least publicised features is the Edit Identity option that can be used to 'label' each freshly-created document. This optional label consists of a brief (up to 90 characters) description of the contents of the file to which it belongs.

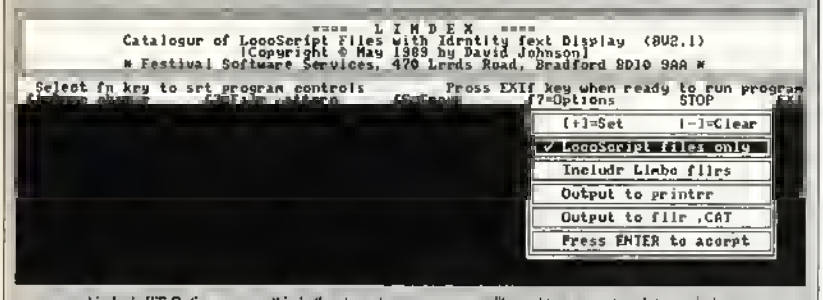
It is a facility which comes in handy when you're looking for a particular document. Instead of having to work your way laboriously through all the files on your LocoScript disc opening and closing each one to check its contents, you simply place the cursor on the file name at the disc management screen, press the [f5] Document menu and select **Inspect document**.

The identity text that you keyed in earlier will tell you all that you need to know about the highlighted file: when you wrote it, for example, what it contains and for whom it was written. The drop-down menu allows you to insert a small piece of text like the following: **21st December 89. Letter to Colonel Huffington-Puffington requesting renewal of membership.** Press [ENTER] and exit from the letter in the usual way.

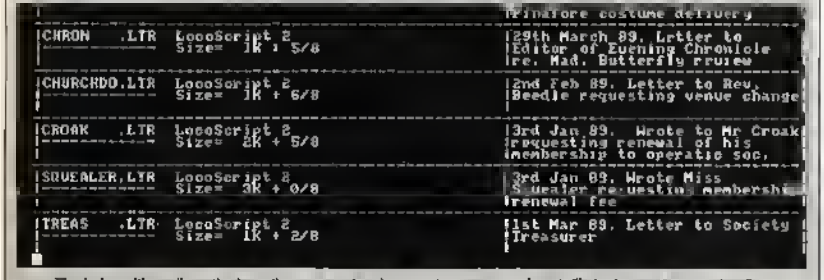
Launches and appeals

This year, the Bradford Diocesan Church Buildings Appeal launched its Festival of Talents scheme. Each parish was given a 'talent' of £100 and encouraged to find ways of multiplying it by the end of the year. Vicar David Johnson and volunteers from his parish have used the money to launch Festival Software Services and Lindex. The proceeds of the enterprise will help towards the repairs and extensions often beyond the means of inner city and rural parish churches.

To check a LocoScript file's contents, choose Inspect document at the [f5] Document menu.



Lindex's [f7] Options menu: this is the drop-down menu you will need to access to print your index



The index will scroll gently down the screen showing you the contents of each file in the group or on the disc

Back to Lindex. What does it do? Well, Lindex is a computer program that has been written specifically to work within LocoScript – versions 1 or 2. It creates a list of all your LocoScript files on disc, group by group, with an indication – alongside the file's name and size – of its subject matter (the Edit Identity text we've just described).

Lindex will also include non-LocoScript documents in its catalogue if required. This is a facility which will come in handy for those users who have made Ascii versions of their LocoScript files.

Lindex is a program that is refreshingly easy to use – perhaps because it was written for those people who only ever use LocoScript. Installing it couldn't be easier. All you have to do is load CP/M to get the A> prompt, insert the program disc, type **Install**, follow the on-screen prompts and away you go with a new disc that will load both CP/M and Lindex in one go.

Cataloguing success

The program's screens are clear and precise. You are presented with four options. The first [f1] option prompts you to place the appropriate LocoScript disc containing the files to be catalogued in the appropriate drive. The second [f3] File pattern menu should be used if you wish to restrict the catalogue that the program will create to files with names of a certain pattern. You might prefer, for example, just to catalogue all your letter files. You would, consequently, instruct the program to disregard those files that didn't have a .LTR suffix.

The [f5] Group menu allows you the choice of cataloguing one specific LocoScript group of files or all of them. The [f7] Options menu affords a number of interesting selections. If you prefer to index non-LocoScript documents, the program will list the first 90 printable characters in the file to your screen. You can choose, at this stage, whether you want all your limbo files to be catalogued; in other words, those files that have been erased from a main group.

The 'Output to printer' option is, again, rather self-explanatory. Once you set this option, (by pressing the [+] key in true LocoScript tradition), Lindex will print a single line for each file in the group or groups being catalogued. The program will print out the name of the file, which version of LocoScript is being used (1 or 2), the size of the file in both K and eighths and, finally, the identity text.

You don't have to print out the catalogues that Lindex produces. Outputting the catalogue to the screen may be all that's needed to jog your memory. Once again, the screen presentation is professional-looking and easily controlled by use of various keys. Press [f1], for example, and the screen will stop scrolling so that you can examine the catalogue at leisure. Hit [STOP] and the screen will continue to scroll. You can exit from the program at any time.

Lindex is a simple, well-crafted program that will probably be of unlimited use to any dedicated and organised LocoScript user who needs to know on a day to day basis just what each disc holds. Full marks must go to its writers. ■

LINDEX

EASE OF USE	5/5		
PERFORMANCE	5/5	DOCUMENTATION	5/5
8000 PLUS VALUE VERDICT	15/15		

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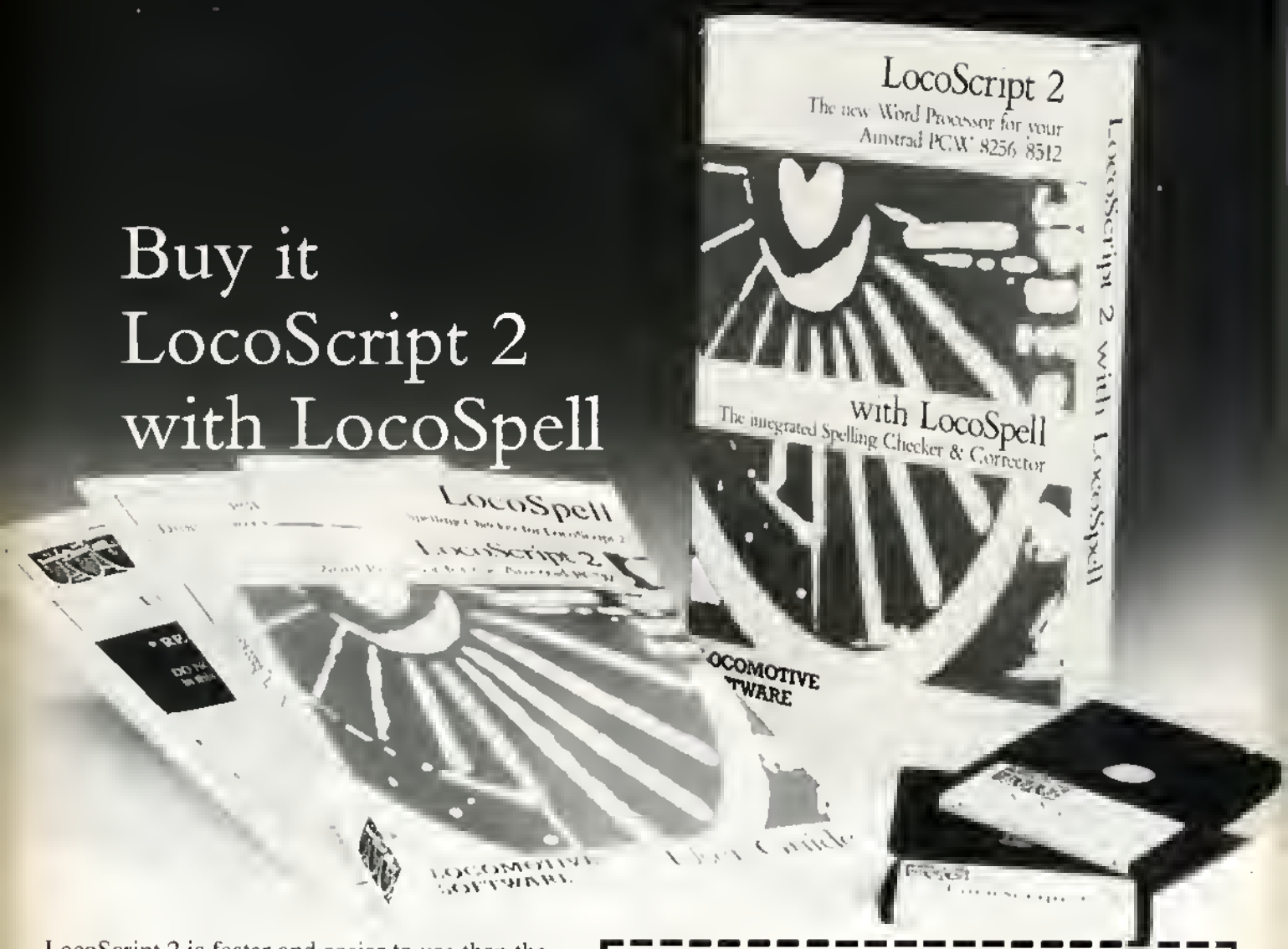

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RABBINICAL EXCERPTS

Rabbi Ian Goodhardt recounts his turbulent adventures with the PCW

Reading rabbi Ian Goodhardt relaxes at home with a copy of the Jewish Chronicle - not produced, we hasten to add, on his PCW!

'It can play noughts and crosses.' This was my first alluring introduction to computerdom. My father was then working at Thames Polytechnic in South London and, in my school holidays, he would take me down there to play around on the computer. The machine itself was a mainframe which hummed quietly away in a large building many miles away. My only contact with it was through the keyboard and printer in front of me which seemed to chunter away almost independently of anything else. It reminded me of the famous Grandstand teleprinter which came to immortalise those Saturday afternoons spent in front of the television as it punched the latest football results across the page.

So I would sit there playing Star Trek, Mastermind, Lander and all those other old number games that a host of distant and anonymous undergraduates had written as exercises in Basic. A few months later, my father brought home a Z80 research machine (based on the same chip that the PCW has) and encourged me to have a go.

He'd taught himself Basic; why shouldn't I, I thought? Well, I got as far as writing a program which told you how old you were if you entered the year you were born – but that was about it. When he kindly offered to buy me a BBC microcomputer for my 18th birthday, I had to tell him that I couldn't really see what I would use it for. I secretly suspected that he'd conceived the idea in much the same way as the car mechanic who decides to buy his wife a torque wrench. Or like the arrival of 'my' trainset years earlier. He looked more than a little crest-fallen.

Screen gazing

This early dabbling strengthened my interest in computers; it was further reinforced when I decided to undertake a short computing course some years later at university. The fruits of this learning included a short program which generated horoscope predictions. It has to be said, however, that the predictions were selected at random from a stored pool of consequences. One lady, obviously looking forward to a favourable outcome of some description, declared that the predictions must be true since a computer 'had ordained' that it was to be so.

It wasn't until the PCW arrived on the scene that I decided I would go ahead and buy my own computer. It was a machine that could bring computing, for the very first time, within reach of those who had only a relatively modest three-figured sum of money at their disposal. I had also just started training for the rabbinate at this time and knew that I would be sent to study at either Gateshead or London. I promised myself that if the Gateshead option didn't materialise, I would buy myself a PCW.

I secured a ticket to the confusingly titled PCW show at Olympia a couple of days after the launch of the PC1512. I asked the sales lady which of the two machines – the PC or the PCW – would be the best buy for me and she, in turn, asked me why I wanted a computer. What exactly did I want to use it for, she asked. I had to confess rather lamely that I didn't really know. I just felt that I had to have one. I was convinced that it would eventually come in handy for some – as yet – undesignated task.

Observing the speed limits

A couple of weeks later, therefore, I was seen tottering my way precariously around Brent Cross under the burden of a large square box which looked to be fairly bursting with potentiality.

I found LocoScript quite easy to master. An hour a day had it cracked in just over a week. Protext's unequalled speed, on the other hand, seduced me into making what was to prove an invaluable purchase almost as soon as the program was launched. I can't enthuse about it enough. Protext is, by far, one of the best pieces of software I have ever had the pleasure to use. What can I say? It does everything I need and more. The Arnor team are clever, courteous and dedicated and have spent what probably amounts to a fair few hours getting to grips with various problems that I confidently tossed their way.

Getting the PCW to print out the Hebrew characters so desperately needed during the course of my studies was a major stumbling block. Once I'd hit upon the magic formula, which consisted of redefining rarely-used Protext characters for both the screen and printer, I had to work out how to enter them into the computer on a right to left basis. Arnor's Douglas Thompson applied his mind to the teaser and quickly hit upon the perfect solution. A fuller article describing how we got to grips with the problem is included later on in the magazine.

My PCW printer, unfortunately, would still only print the Hebrew characters out in draft mode. Amstrad steadfastly refused to think their way around the problem and repeatedly told me that an improvement on the existing situation would be 'virtually impossible.'

The incredible shrinking program

Perhaps a desktop publishing program would provide the answer?

I had just become Youth Minister in Stanmore and had decided that I would produce, with the help of my PCW, a regular magazine called 'Tze'irut'. The necessity of finding a way to print out Near Letter Quality Hebrew characters was becoming urgent.

What a star!

The Star LC24-10 has changed my life. The fast, high-quality printout is definitely a sight for sore eyes. I also have a sheet-feeder – something of a luxury at the price – but it inserts page after page into the printer without any interference from me. For further information on the full range of printers Star offer, call 01 840 1800.

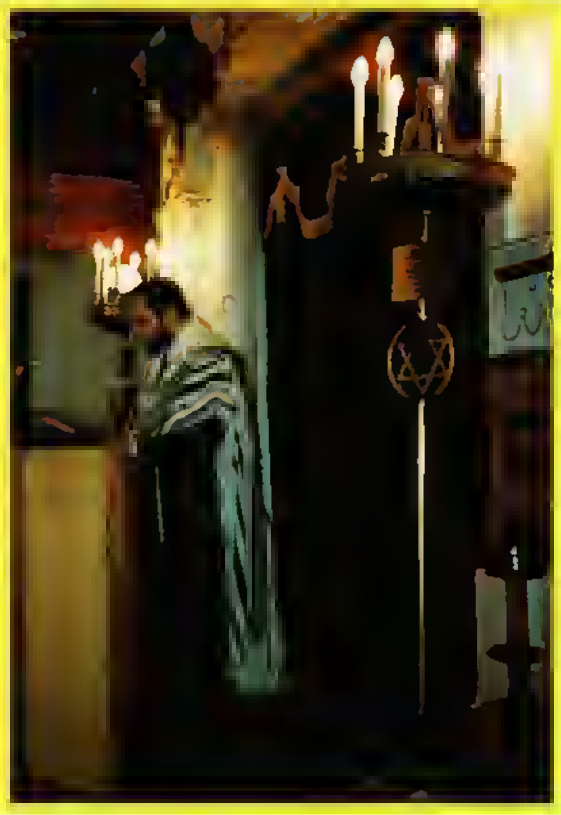
Tracts in the Know

Ian Goodhardt is the Rabbi of the Reading Hebrew Congregation in Berkshire. He is married with two sons and has been interested in computers for as long as he can remember; the PCW is, however, the first one he has actually owned.

He has a Philosophy degree from Birmingham University which he completed - with a subsidiary course in Computer Studies - in 1983. He then embarked on the five year training course at Jews' College in London to become a rabbi. When it came to computers, he found himself suddenly in the classic situation of the one-eyed man in the kingdom of the blind. He persuaded the college to buy a PCW for the receptionist and then to get Protext for all the PC users as well.

The PCW has more than earned its keep within his own community. As well as the Hebrew calendar project which nets about £600 per year for the communities funds, the machine also comes in handy for keeping a database of synagogue members and sending out personalized mailings.

The Reading Community comprises about 200 families and is growing quite fast. "Being in Silicon Valley we have lots of members who work in the computer industry. I think my own knowledge of computers makes them take me a bit more seriously when I get on to more spiritual matters too. In that sense, I'm just one of the boys."



Fleet Street Editor Plus was good – but not that good. Time after time I came up against the same problems: trying to insert text that had been either imported from a word processor or written in the program's text editor onto the finished page proved impossible. Pre-defined boxes would shrink impossibly as the last letters of text were being entered. The program would frequently crash without any warning thus losing several hours' work at a time. It was all rather irritating.

I decided to try my luck with another heavily recommended DTP program, Stop Press. It has two problems: the first one is the lack of a legible small typeface, although defining one is not that difficult; the second, which such program designers should perhaps address, is its unsuitability to run a 24-pin printer driver. The Hebrew printout remained a problem.

In January this year I succumbed to the temptation and bought a Star LC24-10 in a final bid to print out my beloved Protext-defined Hebrew characters in Near Letter Quality. It worked. The Star turned out to be one of the best purchases I ever made. As well as getting on with 'Tze'irut,' I could turn my attention to another project I was beginning.

You see, apart from the usual activities with which I must get involved as a rabbi, I also produce on my PCW upto 200 Jewish Filofax-sized calendars which are distributed around the country in time for the start of the Jewish new year in September. Each calendar was taking up to 50 minutes for my PCW dot matrix to print out. When you multiply that by 200, you know you're in for a long night.

My primary considerations, therefore, in purchasing the Star were the speed and the quality with which it would print out these calendars. On both scores, it has proved a very efficient machine.

Day by day

Being a rabbi with what is often a rather hectic time schedule, I found that conventional calendars were of little or no use. I decided to design a calendar that would be specifically Jewish. It records, for example, exactly what time the Sabbath starts each week (did you know that there is a three-minute time difference between London and Reading?) It records all the major Jewish festivals as well as the English date (which is solar) and the Hebrew date (which is lunar). It also includes details of each week's reading which is the same throughout the world. And it's all written and designed in Protext.

The only trouble is that the file which sends the definitions of the Hebrew characters to the Star printer is a massive 8K long and consists entirely of numbers. I managed to work it all out on a piece of old-fashioned squared paper during a particularly tedious holiday that I was forced to endure at the time.

I could have used a Basic listing in the printer manual which enables you to define the characters graphically, but that was 630 lines long. After typing, debugging and so on, the listing would almost certainly have reached the kind of dimensions that even Tolstoy would have been proud of.

Mind the gap

The dawning of the Mini Office era looked like it would be a glorious one. Every marketing man's dream, I found myself powerless to resist the hype that its arrival occasioned. Accolades such as 'You'd be doing well to get one of these programs for the price, let alone one' and 'Mini Office does for software what the PCW did for hardware' were certainly not lost on me.

I have to confess, however, that my Mini Office epoch was not, on the whole, a happy one. I found the limitations necessarily imposed on all five modules frustrating for my purposes and felt that pooling my resources to spend a little more money on a more robust, specialised program would have been better in the long run.

Although I had no use for the spreadsheet, I didn't like the way the mailmerge facility left spaces in the letters or the way the database could only be manipulated by record number. The package did show me, however, that I could make constructive use of a database. I had discovered that a computer is good at handling monotonous repetitive tasks and a piece of software is only worthwhile if, like Protext, it can take the drudgery out of performing those tasks. To my way of thinking, a database should have a facility which enables you to input repeated data into corresponding fields across a number of different records. When I find one that can do these things, I will buy it.

Protext has more than made up for the frustrations suffered at the hands of Mini Office. With its help, my PCW has proved invaluable in getting me through my exams, writing sermons, producing a youth magazine and keeping track of synagogue members' records and sending out personalised mailing lists. I was right after all: it did come in handy for something. ■

If you would like to know all the gory details of how Ian finally persuaded Protext to produce and print out Hebrew characters, turn to page 55.

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DECO:
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THE REAPING MACHINE

Tony Dennis shows you how your PCW can gather and process far-flung information using on-line databases

Back in the bad old days when the mainframe ruled the roost, it was a costly undertaking to put information into digital form whereby it could easily be accessed. Many companies decided to offset this expense by making their data files available to other users – for a fee of course. In this way the on-line database was born.

Firms who had spotted the advantage of publishing information in this manner appeared on the scene. They have subsequently produced on-line databases in their own right for commercial purposes. As far as the world of communications jargon is concerned, these firms are known as information providers.

How much will it cost?

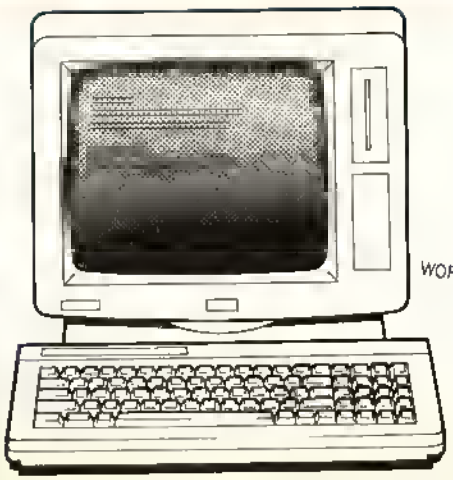
This is one of the most difficult parts to gauge. Firstly, the user has the cost of the actual telephone call itself. If the user is located outside London or far enough away from the host computers that the call is not a local one, then it might well be worth considering using a dedicated data network such as BT's Packet SwitchStream (PSS) or Mercury's 5000 Service.

For those intending frequent and lengthy consultations with on-line databases, these networks will prove cheaper. For the average user, however, dialling directly will be far less complicated and probably just as cheap. Databases might charge in a variety of manners. Connection charges for time spent actually on the system itself are very common. Additionally, the system might charge for the number of characters transmitted and received or for the number of records accessed.

Some databases even charge for the speed at which they are accessed. Hence those calling at 1200 bits per second (bps) or even 2400 bps (twice as fast) may be charged extra. One way of avoiding vast on-line access charges is to request a printout of a particular document. This will usually arrive the next day.

Let's take as an example the Password database. The service is aimed at those in the process control industry and holds records on a wide range of sensors, transmitters, chemical analysers and self-tuning controllers. The details were supplied by companies like Honeywell, Foxboro and Rosemount. The information provider is a company called INDEX-I but the database can be accessed via a gateway on Telecom Gold.

For those who aren't already subscribing to Telecom Gold, joining Password would cost £35 or £75. To search the Password database, it costs £1 per minute; users can, however, opt to pay £27.50 per month for unlimited access time. The cost doesn't stop here though, because the PCW user still has to pay the cost of the telephone call – between 2p and 6.5p per minute to be connected to Telecom Gold and between 1p and 4p to send or receive blocks of 512 characters. Thus calculating how much the service will cost is roughly akin to asking "How long is a piece of string?".



WORDS INFORMATION DATA WORDS INFORMATION DATA WORDS INFORMATION WORDS DATA IN

The existence of such databases effectively means that there is a wealth of information already in digital form which can be downloaded to your PCW. On-line databases can also take the pain out of research. Searching with carefully chosen keywords or phrases saves hours wasted in wading through books and magazines looking for relevant articles. There is, however, something of a catch 22 situation with on-line databases: it is not always easy to discover exactly what information is held on-line and how applicable it might be to a specific requirement.

Getting started

There are two major routes to ascertain where the information might be held. The first is to enquire with the relevant professional associations or trade bodies. This is a good approach for some fairly narrow fields, such as law or medicine.

Another solution – especially for those interested in a number of different fields – is to acquire a directory of on-line services such as *Brit-Line* from McGraw-Hill or *The Source* from Key Note Publications. Brit-Line concentrates on databases themselves whereas The Source is organised by industry; this naturally makes it much easier for users to locate databases specific to their own areas. Once the information has been obtained, the power of the PCW can then be brought to bear.

Since the information is already in digital format, the downloaded data can be merged into other documents such as letters, tables, articles or a book chapter. Most users will already be familiar with the PCW's text handling capabilities but the machine's processing power can also be utilised for increasing the efficiency of on-line searching. All it takes is a little forethought and some time spent learning how to use the comms program.

There are certain important differences between the formats used by databases. At this stage we shall leave aside the fact that Prestel databases require different software from text-only services. Some databases carry the full text of articles or documents. Others are just summaries of the originals. The skilled database user will also learn how to use the headings which the information provider has given to particular documents/items.

This can save greatly on on-line time. By looking only at headings, the host computer does not need to search the body of the text, so it arrives at an answer more quickly. Once a relevant database has been identified, there can be no substitute for training. Databases are complicated beasts often conforming to Boolean logic in the way they can be

searched. All the major information providers, however, can provide either training materials or courses for subscribers.

Thoroughly modem silly

The cost of the actual hardware needed for connection to an on-line database has declined rapidly in recent years. A quality business modem like Dowty's Quattro used to cost £800. Nowadays, the same facilities are offered by modems like Amstrad's SM2400 for just £199.

A serial RS232 interface is also required. It would be possible to access an on-line database by running a very simple terminal emulation program. A terminal emulator enables the PCW to pretend it is a simple asynchronous terminal such as DEC's VT52 or VT100.

This approach is not recommended because merely pretending to be a terminal removes the benefits of the PCW's own processing power. With good communications software, the PCW user can capture a whole on-line session back to disc and then edit it. Examples of PCW comms packages are PMS' Dial-Up Personal or Sagesoft's Chit-Chat. These packages also support Prestel emulation should the user need to access a database residing on that service.

It is quite possible to automate a great deal of the on-line session. For example, not only can information be saved straight to disc, but certain keys can be assigned for specific functions. Typing out an involved search command on-line is risky because mistakes can be made or line noise might corrupt the character string. This problem is overcome by assigning a specific function key to send the string before going on-line.

Knowing the exact form of the command to leave the system can also prove crucial in view of the costs involved. Failing to exit properly can mean the host continues to charge before it notices your absence.

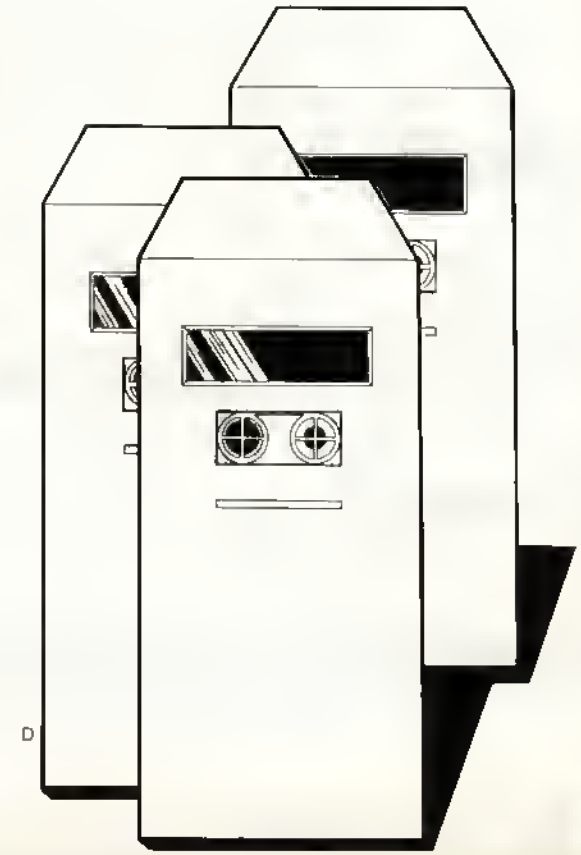
For reasons best known to themselves, on-line database suppliers use a multitude of different commands for the same thing. For example, the correct command for finishing a session might be QUIT, BYE, or OFF. Comms programs allow function keys to be assigned to send these commands. Moreover the keystroke combination can always stay the same, and although the actual string sent can differ, the effect will still be the same; [f2], for example, would always disconnect the user from the service. In fact, all the user is doing is making intelligent use of the same facility that allows log-ins to be automated.

Signing on

Let's run through a typical signing on procedure. In this case, the user would be accessing INSPEC, a database compiled by the Institution of Electrical Engineers. Basically the material it carries is literature of a scientific nature which might interest its members.

The host is the European Space Agency Information Retrieval Service (ESA-IRS) which has its computers in Italy. Fortunately it can be accessed via British Telecom's PSS service. Having already set the correct communications protocols for the system, the user would then instruct the modem to dial the appropriate number. The latter information could be held in the package's dialling directory. The user would typically see the following on-screen:

ATDT6807999 - The command to dial 01 680 7999
CONNECT 1200 – The modem indicating a connection at 1200 bps
LO4\A021-1670040114 - PSS acknowledging the user who has sent two carriage returns and the characters D]
NUI? – PSS asking for the network user identity
NESAIRS [ESA-IRS'NUI] ADD? – PSS asks for a network user address
A21920115604 [ESA-IRS' NUA] – The user would subsequently supply a password and be given access to the system. ■



Finding out more

One of the most indispensable aids for the on-line researcher is a good directory of available databases. Two prime examples of such publications are:

Brit-line ● £85 (£110 with 6-monthly updates) ● McGraw-Hill ● 0628 23432

This book is essentially a directory of British databases and Volume 4 (1989) contains some 375 of them.

Databases have been grouped according to the subject area they cover. One of the largest sections is company information which includes self-explanatory databases like Who Owns Whom Online.

Each database entry provides essential information, such as the database's full name as well as its common abbreviation, who produced the information, which host systems carry it, and what the printed equivalent (if any) is called. As far as possible, a sample record from each database is also shown. This will give you a useful taster as to what's in store.

Brit-line contains an impressively comprehensive range of indexes; this means that the user can find a database on a minimum of information. The only drawback to this current edition is that information regarding the cost of access has been dropped. It's therefore hard to tell the affordable from the exceedingly expensive.

The Source Book ● £95 (p&p £4.95) ● Key Note Publications ● 01 783 0755

There are 412 on-line databases available in the UK mentioned in this publication. Its approach is to break down 11,000 sources of information into recognisable areas; there are ten broad divisions which include the engineering, transport and primary industries. Then there is a further grouping into 40 different sectors covering 300 different industries.

Although both provider and host(s) are mentioned, the Book's list of addresses confines itself to covering host systems.

No details of database costs are given, but this 800 page tome has a ring binder which bodes well for the future. It shouldn't be a difficult task to supply easily inserted pages when new on-line sources appear.

A host of goodies

Very many of the databases themselves are available to subscribers through more than one 'host'. A good example here might be the Official Airline Guide which is on a whole variety of hosts. It makes sense, therefore, to carefully research exactly which databases might prove useful before signing up with one particular supplier. This would avoid paying two hosts when one might carry all the desired databases.

Gateway to the universe

There is also an increasing trend for the suppliers of electronic mail facilities – such as Telecom Gold, Mercury Link and One to One – to provide 'gateways'. This means that the user can check for electronic mail messages and then without any need to redial (or upload special passwords) gain access to a database without breaking the call. In such circumstances the user simply issues a command to go through the gateway.

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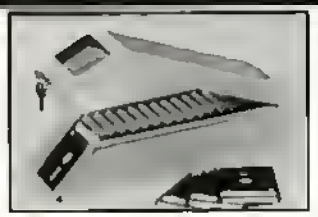

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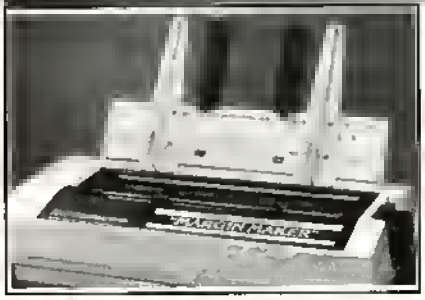

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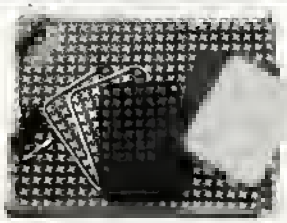

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ULTIMATE QUIZ

£14.95 ● DGC Software ● 0337 7444

If the prospect of sitting down with replete, dozing members of your family to watch the umpteenth showing of The Wizard of Oz on Christmas afternoon doesn't hold any appeal, this latest version of Ultimate Quiz will give you the excuse you need to lock yourself away for an hour or two of fun with your PCW.

A number of changes are immediately evident in this upgraded release from the DGC stable. Ten quizzes are now available on the disc, each one consisting of 100 multiple choice questions. There's something on here to please almost everybody – from foreign language (French, German and Italian) translation questions, to geography, history and sports puzzlers. There are also two pretty hefty trivia quiz files that are bound to satisfy the most hopeless general knowledge addict.

The Highway Code quiz is still there to provide you with a fun and interesting way of brushing up on your road knowledge; it will also supply any would-be back-seat-drivers with all the hairsplitting ammunition they're likely to need to topple you over the brink of total insanity.

Each of the ten quizzes can be played with one of a number of special effect extras. The Noughts and Crosses option is still there, which means that you choose the position you want to take on the empty grid before the question appears; answer correctly, and you secure one square against the computer. Get it wrong, and you lose it. It's all good fun – and rather addictive at that.

I say, I say, I say...

Younger players might prefer to answer questions with the jokes option turned on. When you answer the question correctly, an appalling joke will appear along the bottom of the screen. While this is a gimick that will definitely amuse the younger quizzer, we're not quite sure how well a 'Knock, knock' joke will go down with a more mature player who is capable of entering the right answer to a question like 'Which MP was first elected MP for Oldham in 1900?'

For players preferring a somewhat livelier pace, the timer option is still available if you want it. Failure to answer the question correctly in the allotted time (5, 10, 15, 30, 45 or 60 seconds) will lose you the point.

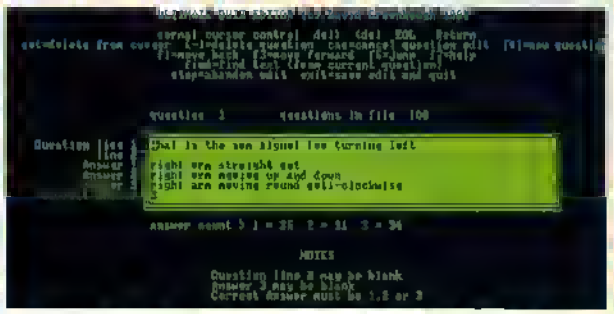
As with the last version of Ultimate Quiz, the program's trump card is its quiz editing facility. This means that not only can you make alterations to the existing quiz files (like adding and deleting questions), you can also make up your own quizzes and save them to the disc. Putting together your own subject-specific question files means that Ultimate Quiz can be used as a valuable (and amusing) learning tool.

Run that by me again

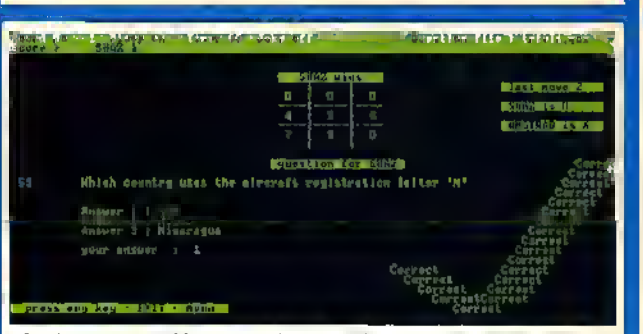
Ultimate Quiz is, on the whole, very well presented. The screens are clean, the program is easy to use and the questions in each of the ten quiz files will probably keep the majority of people happy most of the time. At times, though, the creators of the quiz files could have benefited more than once from using the editing facility just mentioned. Although the program is not exactly dogged by typos, they do tend to appear at alarmingly regular intervals and spoil the slick presentation of what is otherwise a very professional program.

At one point in the Drive.Quz file, you're asked about the correct procedure when overtaking a horse on the road. Should you, for example, 'sound your hour' at the animal as you pass it? This, needless to say, conjures up the bizarre image of somebody winding down their window and screaming 'Two o'clock!' at some poor creature as they drive past it. There's another question in the French Language quiz where the program-approved answer was obviously completely wrong: 'Je peux rester ici combien de temps?' has never meant, as far as we're aware, 'Is there a short cut?'

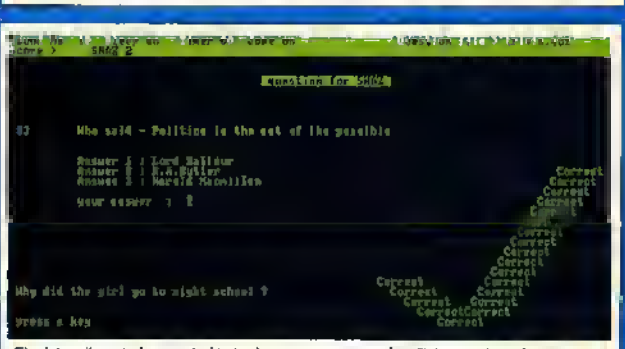
The good news is that the price is still the same: £14.95. When you consider that there are eight new quizzes on the disc as well as the optional extras, that's not bad going for a program that is sure to keep you so entertained you simply won't have time to give even a passing thought to the Yellow Brick Road. ■



The quiz editing facility is definitely the program's trump card. This can be used in two ways; you can either edit existing quiz files (alter the questions or add more of them) or make up your own question and answer files.



One of the program's special effect extras is its noughts and crosses facility carried over from the first release of the Quiz. The PCW becomes your opponent. Answer a question correctly and your O will be placed on the preselected position on the grid.



The jokes (hare being used with the famous quotations trivia file) are rather cringing to say the least, but will doubtless appeal to younger users of the game. After a few hours' play, however, some of them may start to look oddly familiar.

ULTIMATE QUIZ

PLUSES

- ▲ Useful editing facility
- ▲ Addictive quiz play
- ▲ Professional program
- ▲ Can print out quiz sheets

MINUSES

- ▼ Documentation is on the disc.
- ▼ After a few hours' play, some jokes look familiar.

EASE OF USE 5/5 PERFORMANCE 4/5
DOCUMENTATION 3/5 ADDICTIVENESS 5/5
8000 PLUS VALUE VERDICT 17/20

PRELUDE TO A PCW

Introducing a computer to a new business doesn't have to be a baptism of fire - provided you make sure you ask all the right questions first

Until relatively recent times, the use of computers in small businesses was not a financially viable proposition. Their exorbitant price-tags restricted their use for many years to within large, affluent organisations. Since then, the steadily decreasing cost of hardware in particular has meant that more and more businesses – the nascent enterprise as well as the wealthy corporation – have been able to take advantage of many of the benefits computerisation brings. Improved communications in and out of the company, more efficient laundering of paperwork and speedier storage and retrieval of information are just some of the advantages to be gained.

Take the arrival on the scene of the PCWs. Here, for the first time, was an easily affordable and readily available machine that came seductively bundled with its own keyboard and printer and which – most excitingly of all – boasted its own gateway onto the sea of business software already in existence: the CP/M operating system.

Nowadays, though, a new kind of snobbery has attached itself to computers. They are invariably 'a Good Thing to Have Around' and nobody can possibly take any business seriously unless they've got at least two or three of them in sharp evidence. For those embarking on their own small business enterprise, the decision as to whether to 'go computerised' or not rears its head quite early on: a computer is bound to reduce the amount of paperwork, they think, and fondly imagine that it will transform the office overnight into one of those paper-free zones of data-based efficiency they've read about.

Translating such heady aspirations into successful practice is, however, another matter. The paperless office remains a science fiction fantasy for many but the large organisation.

Even in an environment where the user-friendliness of a software package is as important as the initial reason for its purchase, computerising your business will only reap the expected dividends if you first sit down and analyse your requirements. Faulty judgements in the initial stages can result in a lot of time and money being wasted.

The Facts

1 Here are some reasons why a small business might benefit from the use of a computer:

- for managing book-keeping functions
- for sending out invoices
- for keeping control of cash flow and monitoring outstanding accounts
- maintaining records of customers or clients and potential customers
- analysing business trends
- producing standard business letters
- producing designs
- stock control.

As you've probably noticed, this list tends to have a strong sales orientation. As a general rule, if you have a lot of customers or a wide range of stock items, then there are many advantages to computing. If you deal with a few customers or clients and carry only a limitd range of stock or no stock at all, then a computer will have only a limited application.

2 A computer is very good at handling large amounts of information fast. It is much less efficient at dealing with individual records. Let's take a customer database; if you want to look up a customer record, you have to switch the machine on, load the software, find the appropriate disc, load the record and find the data you want. By the time this has been done, you could have looked at several records in a paper filing system.

Moreover, to input a record, you invariably have to write the information down on paper first so that you can remember what to key into the machine. If you have several hundred records of customers or clients with different requirements, most of which have alterations made to them regularly, then a computer will definitely be of help to you. On the other hand, a fairly static group of 30 or 40 client records might be better handled on a card index.

3 Accounts are one of the classic administrative bottlenecks that a computer can help you negotiate your way around very successfully. You can use either a package that has been specifically designed for that purpose or a spreadsheet. Most of the accounts packages from leading suppliers are geared to the needs of certain types of firms. Packages that handle stock control, invoicing/sales and purchase/nominal ledgers can be bought either as separate items or as integrated suites. The secret here is to find out which of the available programs fits in the most comfortably with the current modus operandi of your business.

Computerised accounts provide the best way of gaining accurate mastery of your budgets. I have my home budget on a spreadsheet and can predict with reasonable accuracy the size of my overdraft in three – or even six months' time. This means that when my wife asks for another Porsche, not only can I say 'No' with consummate conviction, I can also show her why not at the touch of a few keys.

4 Many people buy PCWs for their word processing power. In business, this can have several uses: you can produce professional-looking letters free of spelling mistakes and obvious signs of Tipp-exing. You can even produce your own business stationery, though it might be better for your image to get this professionally-designed.

However, the real benefits can be reaped when it comes to exercises requiring the turbo-charged boost of a professional mail-merge package. Even so, it is perhaps worth remembering that you've bought a computer – not a duplicator. A run of several hundred letters is probably going to tie up the machine for a considerable length of time.

It has to be said that the novelty of getting 'personalised' letters has worn off somewhat; some people feel that the mailshot letter they have just received is so obviously computer-generated anyway that the de-personalisation of the correspondence is just as blatant. You have to weigh up the pros and cons.

A well-managed micro-computer can be a boon to a small business. It's not, however, as will be seen, a simple matter of going out and buying the first one that you see. A generous gestation period should be planned during which you fully analyse your requirements. Once the original idea has been firmly implanted, do everything within your power to find out about the various installation procedures involved. Browse your way at length around library shelves, get advice from professional consultants and – above all – talk to those who have already – and hopefully, successfully – taken the plunge.

Try asking yourself at least four salient questions before you go any further: why? when? what? and where?

WHY?

This is obviously the most important question to ask, yet possibly the least posed of them all. The speed with which data is processed is possibly one of the most seductive attractions as far as the small business is concerned. Not only that, but a PCW can handle one heck of a lot of information. One 3" disc can hold as much as 20,000 names and addresses, any one of which can be accessed within the space – at most – of a couple of minutes. The more data you have at your disposal, therefore, the more useful a computer will be to you.

Another of the PCW's principal attractions is its number-crunching facilities. As well as storing the figures that you enter, it will perform complicated calculations on them. These calculations will all automatically be reworked if you make any changes to the original data. Provided you feed the correct figures into the machine in the first place, you can rest assured that the resulting calculations will be performed more quickly and accurately than you would probably be able to manage yourself. The beauty of an integrated accounts package of the kind we mentioned earlier is that you can record a transaction in the sales ledger and the PCW will automatically update the appropriate nominal ledger as well.

I once heard of a medical practice the members of which glibly decided one day to computerise their patient records. They obtained a computer, read the manuals and set to work organising the office to facilitate the arrival of their new accessory. Having accomplished a major reorganisation of both the office and the systems, they made an astonishing discovery. They didn't actually need a computer. What they had needed was a reshuffled paper system.

WHEN?

This is likely to be one of the most difficult questions to answer. If you have a background of business experience, then that should make the decision easier to make. If you are new to running your own business, then judging the right moment to bring in a computer will not be easy. Ideally, computerisation should begin before your paperwork system looks bent on a state of total collapse through sheer volume. You will have no leeway for running the two systems side by side for a while to ensure compatibility.

Ultimately, I suppose, there is no good time to introduce a computer. At whatever stage you take the momentous step, the introduction of a computer will undoubtedly but realistically complicate things for a time. If the thinking has been done in advance and done well, the transition should be short and reasonably painless. If you try 'making it up as you go along', prepare, as they say, to 'meet thy doom.' This is probably the most tried and tested method of them all; it is also the method with the greatest potential for disaster.

CONTACTS

Broadway Business Systems, Bank Buildings, Kennel Lane, Broadway, Worcester WR12 7DP (0386 852641).
This company provides a concentrated interruption-free environment in which the potential buyer can view a variety of systems and software - including PCW applications - at work before making the decision to buy. The advice may be objective, but at £25 an hour it isn't cheap.

Taming Your Company Computer by Colin Corder (£13.95 from McGraw-Hill).

The A-Z of Business Computing by Adrian V Stokes (£14.95 from Heinemann).

WHAT?

Buy the best that your money can afford. For the small business in the early stages of development, this could mean a PCW. I work with several MS-DOS machines; as far as satisfying my personal set of requirements is concerned, the PCW is just as effective. The single advantage of larger machines at this stage is, of course, their increased speed. With many small businesses, though, this is insufficient justification to warrant the spending of two to three times more money. I would, however, make one proviso: you will almost certainly benefit from having two disc drives.

Significant amounts of time can be saved through having a fast printer. Near Letter Quality printout is improving all the time and the ability to print acceptable invoice headings, business graphics and spreadsheets sideways on is an important consideration. Having said that, the high quality of daisy wheel reproduction cannot always be justified. Perhaps trading in your daisy wheel printer for a good quality 24-pin dot matrix or ink jet may provide the answer. If, however, very high quality reproduction is an essential part of your corporate image, having a cheap dot-matrix alongside the daisy-wheel could provide you with the best of both worlds.

WHERE?

Planning the precise location of the unit can be important. The machine should be positioned in such a way that all reflection from windows and lights is reduced to a bare minimum. Experience has shown that locating a computer so that the operator is facing into a window is better than having a window behind. The window should be fitted with a curtain or blind to cut out strong sunlight. In some circumstances, an anti-glare screen may be needed. These are usually clipped onto the screen of the PCW. Not only do they minimise irritating reflection, they also sharpen up the image that is on the screen.

If at all possible, avoid placing the computer next to other regularly-used machinery. The same is true of busy aisles and doorways. A telephone next to the machine is nearly always useful, especially if it's required to reply to customers' data enquiries. Phones can also be fitted with headsets leaving both hands free to type. By this means, data can be entered directly into database records, for example, without going through the tedious and time-consuming drill of making out an input-slip.

AND FINALLY .... HOW?

If someone is going to spend large amounts of time operating the computer, then a well-designed chair and desk are important. It's not a bad idea to have the printer on a separate table since the noise and vibrations it produces – especially in the case of a daisy wheel printer – can upset the delicate components of even so robust a machine as the PCW, and drive you, of course, completely batty. It's not easy trying to work at a desk that feels like a Tiger Moth during its final stages of take-off.

The desk should consist of a working surface some 28 inches from the floor (2 inches lower than a standard table). This will, hopefully, allow the user to operate the keyboard comfortably, with forearms positioned roughly at right angles to the biceps (this is, incidentally, the ergonomic epitome of typing comfort). The chair should be adjustable for optimum back support.

All this may seem like an expensive luxury; it isn't. Some people would argue that if you want a consistently high quality of data input, it's absolutely essential.

SPEAKEASY

When it comes to computerised number-crunching, David Wilson offers some cautionary tales of wisdom

David Wilson, computer consultant extraordinaire

A little while ago, I was reading in the paper about some unlucky holidaymakers who were having to put up with a twenty-eight hour delay on their Florida flight from Heathrow.

If anyone in a similar position goes to the nearest bookstall, picks up this edition of 8000 Plus, and stumbles across this column, they will almost certainly submit to the desire to rip the magazine up into little pieces and jump maniacally on the debris. That's because I'm going to ask you to imagine the upheaval involved in travelling to Florida two hundred years ago! The stagecoach to the harbour would have been bad enough ....

It isn't surprising, I suppose, that this sort of philosophical reflection offers little or no comfort to someone glued interminably to a plastic chair in Terminal 13. Rapid though the development of civil transport has undoubtedly been, there's been an intervening decade or two – at least – between each new breakthrough. Let's face it, we've all had plenty of time to learn to take things for granted.

My customers are a case in point. The computers that they use have only been around for what seems like ten minutes and already they take them for granted. Only yesterday they were keeping their accounts with a fountain pen in leather-bound foolscap volumes, and now – well, just look how the dreaded VAT calculations have been organised.

I'm quite proud of the way my programs handle them. All the calculations are carried out to an accuracy of six decimal places, while the display is rounded to the nearest penny. It has to be said, however, that when a series of VAT amounts is added up, the unrounded numbers are used, and this can cause an apparent discrepancy. I wish I had a pound for every time I've had to explain this. Yet it isn't that long ago that the people I now help had to work everything out with a calculator.

How's VAT!

It's so easy to accidentally press the wrong key when you're trying to calculate 15% of six months' invoices with the VAT inspector hammering at your door. If they got it accurate to the nearest £50 they thought they were doing well. Now my programs do the whole job in a flash, and people will still complain, believe it or not, because the calculations are perhaps tuppence out!

The big snag as far as labour-saving devices is concerned is that they only save you time and trouble if you did the job yourself previously. If you've always sent the family wash to the launderette, you probably won't be thrilled to death at the prospect of having to get used to a washing machine.

A lot of people used to have a pretty cavalier attitude towards book-keeping. Some of them just preferred to hand over a great bundle of invoices and receipts to their long-suffering accountants every few months; at best, they would keep sales and purchase ledgers. Then they got a computer, and bought an accounts package to run on it ....

Don't get me wrong; almost all the commercial accounts programs which you can buy for the PCW are excellent – if you need an accounts program. I don't know about you, but I suspect that most healthy people find accountancy jargon singularly mind-deadening. I made a vow years ago that I'd never let words like 'Journal Entry' and 'Trial Balance' cross my mind again – I'm breaking that vow for your sake. But let me tell you something: There Is No Law Which Compels You To Learn All That Nonsense! A wise Providence created people called accountants. They enjoy that kind of thing, so why not leave them to it.

Perhaps you've already been through the struggle of learning to use an accounts package, or a spreadsheet, or a complicated database. Well done. I appreciate your hard work, even if no-one else does. But I'm sure you soon discovered the next pitfall. Since no-one else understands how on earth to work the program, YOU HAVE BECOME INDISPENSABLE. Try to take the afternoon off, and your mighty organisation grinds to a halt simply because everyone else is frightened to touch the computer. (Even worse – perhaps you're afraid to let anyone else touch it ....)

'Open the pod-bay doors, Hal'

Have you noticed how computers always play one of two roles in films. Sometimes they're evil monsters which come perilously close to taking over the whole world; it's funny how the hero always manages to blow them up at the last minute.

Sometimes, of course, they are tireless servants of humanity: you ask them a question, they buzz for a second in a rather long-suffering fashion and then present you with a neat little answer. Somehow, these movie computers have absorbed all the data in the universe. They know everything. What I'd like to know is who types all this stuff into the machine in the machine in the first place.

Film-makers seem conveniently able to gloss over this rather glaring oversight in the same way as those TV chefs who say "To save time, here's one I made earlier." In the real world, sadly, someone has to sit down and enter all those invoices, customer names and addresses and product descriptions. It's a pity that these movie-land computers aren't for sale in Dixons; mind you, if they were, you probably wouldn't be able to afford one anyway.

I'm sorry I've been so down-beat this month. I make my living persuading people to computerize their businesses, but I'd far rather have one satisfied customer than a dozen aggrieved ones. I regard it as self-evident that you should try to find out the drawbacks as well as the benefits before you commit yourself to a major change in the way you run your affairs.

Luckily for me, I don't have to sell umpteen computers a month to earn my wages. If I did, I'd be singing a different tune, I can tell you. ■

And now, a FLIPPER that works with Isenstein memory boards too.

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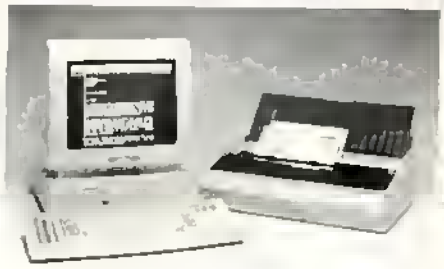

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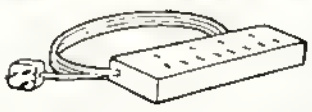

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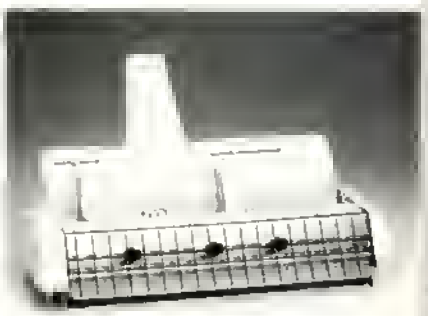

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SUPERCALC SURGERY

Tim Nott turns agony uncle in the absolutely, positively, definitely, adverbially redundant last instalment of our SuperCalc series

Supercalc's manual has a well-earned reputation of being everything a manual should be. However, the program's performance can be considerably enhanced by using other CP/M utilities that are not covered in the manual. The following collection of tips, wheezes and glitchfixes have been gleaned variously from the manual, other sources, and bitter experience. They are loosely connected by the theme of exploiting SuperCalc without letting it exploit you.

Q: *Why does SuperCalc run so slowly, and with much flashing of the red drive light?*

A: You are running it from the disc drive. In order to leave a enough memory in which to create a spreadsheet, many of SuperCalc's functions are kept in an overlay file (SC2.OVL), rather than in the main program (SC2.COM). To access these functions, SuperCalc must read them from the overlay file, and this is what causes the delay.

Your M drive, apart from being an excellent device for losing important LocoScript documents, can speed things up no end. Copy SC2.COM, SC2.OVL and SC2.HLP onto it, and run the program from there. This also avoids strenuous disc changing gymnastics when saving or loading .CAL files on a single drive PCW.

Q: *What's a .CAL file?*

A: A .CAL file is what you get when you save a spreadsheet.

Q: *Anyway, it's still slow.*

A: By default, SuperCalc automatically recalculates the entire spreadsheet after each new entry is made. This can be quite useful when "what-iffing" on a set of figures, but is a pain in the lowest part of memory at other times. Turn this off by typing /G(lobal)M(anual) and then SuperCalc will only recalculate when told to with an exclamation mark [SHIFT 1].

Q: *Why don't the delete keys work?*

A: SuperCalc2 was published for the PCW as an official Amstrad package, and comes tailored for the PCW. Unfortunately, they seem to have used Alexei Sayle's tailor. What CP/M understands as a "rubout" or backward delete SuperCalc interprets as a forward delete. This may or may not be because the program was published by Sorcim, which is Micros spelt backwards. To fix it, include the following lines in your key definition file.

16 N "↑'127'"
72 N "↑'#98'"
E #98 "↑A↑'127'"

Q: *In my what?*

A: A key definition file is what SETKEYS works on. SETKEYS.COM is to be found on side 2 of the Amstrad Master discs, and as its name suggests, lets you set up the keyboard the way that you want it. Copy it onto your SuperCalc start-of-day disc, and using BASIC RPED (or any other method you may have of making simple ASCII text files) create a key definition file, called, say KEYS.SC2. To paraphrase the much-loved words of the Amstrad manual, this utility is not covered any further in this article, as the said manual covers it fairly adequately on pages 108 onwards.

Q: *I always seem to be forgetting to put double quotes in front of my text, and get a "Formula ERROR" message. So, I take the cursor back to the start, type in the quotes, which then obliterates the first letter of my text, so I type that back in, which obliterates the second letter, and so on...Why?*

A: First, don't feel guilty about forgetting the quotes – it happens to all of us – and remember that the [TAB] key will send the cursor straight back to the start of the line. The input line editor works in "overstrike" mode, that is, any character typed in replaces that under the cursor. LocoScript users, accustomed to "insert" mode (where a character typed in is inserted in front of that under the cursor), take to this as naturally as a duck to cycling. There is no known cure, but there are ways of easing the pain. Either remember to hit the [↑] key to create a space before trying to insert a character, or reconfigure, say, the [LINE/EOL] key, which is unimportant to SuperCalc, to jump back

Just forget it

ED.COM, which comes with the compliments of Amstrad on side 2 of your system discs, represents an interesting experimental development in word processing. The breakthrough, inspired by the writing of authors such as William Burroughs, was to do away with the convention that what is displayed on the screen has any relationship to the finished text. This literary genre is now considered out of fashion, except by the writers of some software manuals.

As if by magic the spreadsheet is loaded. Well, it's less to do with magic and more to do with SUBMIT.COM and SuperCalc's own XQT or executable files.

SID.COM will help you to get the £s in a stable condition. Follow this shot for the main SC2.COM file.

Follow this screen in order to alter the £ signs in the overlay file SC2.OVL. Remember always to use backups.

This is SDI or Super Data Interchange in action. Simply one way of outputting files from SuperCalc to other software. Comma separated files are commonly found as output from databases and the like. Not one Star Wars joke...yet.

The really, really useful PROFILE.SUB file

The semicolon and ensuing comments should not be typed in, they only serve to explain what is happening.

```
PAPER 11                ;set up printer for continuous stationery
LANGUAGE 3              ;support the £
SETKEYS KEYS.SC2        ;customise the keyboard
DATTIM                  ;tell Supercalc today's date
PIP                     ;copy to M drive...
<M:=SC2.*[row]          ;the Supercalc programs
<M:=*.CAL               ;your spreadsheet(s)
<M:=*.XQT               ;and any eXecute files
<                       ;that's enough PIPping
M:                      ;log on to M drive
SC2 START               ;let's go!
```

Fast and free

VDE.COM is a public domain program available free from CP/M user groups, or at very little cost from firms such as Advantage of Cheltenham. It takes up only 10k of disc space, has facilities similar to LocoScript's cut and paste, and is very fast as it handles files entirely in memory. I wouldn't be without it.

to the start of the line and insert a double quote. This is the line for the key definition file.

E #8F "↑I ↑_↑""

Q: *Nothing happens when I press [SHIFT 3]. Why won't SuperCalc support the £?*

A: Good question. Nigel Lawson tried, and look what happened to him. Less learned journals have stated explicitly that there is no way to get SuperCalc to print a pound sign. However, these authors are clearly missing an address mark or two. The LANGUAGE command, which comes on side 2 of the Amstrad system discs, and a little more key definition can scotch this myth. Although the explanation of LANGUAGE.COM on page 104 of the Amstrad manual states that there is no difference between the US and UK character sets, this is not true. The command LANGUAGE 3 replaces the hash sign with a pound sign, and the following line in the key definition file will restore [SHIFT 3] to its sterling glory.

57 S "£"

Q: *That's all very well, but it doesn't help with the "floating $" option in the user-defined formats.*

A: There's no pleasing some people, is there? To get round this you must hack the SuperCalc programs themselves. Copy SC2.COM and SC2.OVL onto the M drive. Insert side 2 of the Amstrad system discs and type SET M:[RW,DIR]. This will let you alter the files. Insert side 3 of the system discs and type SID M:SC2.COM. This will load the SuperCalc program into SID, which stands for Symbolic Instruction Debugger (Stop giggling- American computer programmers use language differently from the rest of us).

At the hash prompt, type S5A25. This will show you the byte at the address 5A25 , which should be 24, the hex ASCII number for the dollar sign. Change this by typing 23 [RETURN]. Type a full stop [RETURN] to let SID know that you have finished debuggering about, then WM:SC2.COM to write the altered file back to the M drive. Press [STOP] to exit SID, and repeat for M:SC2.OVL, this time changing the byte at 1589, again from 24 to 23. Copy the SC2 files back to a start of day disc, and lo, you will have a floating pound, but don't tell Mrs Thatcher.

Q: *What can I do with the Arrange command?*

A: The arrange command, which is invoked with /A followed by the details of what and how you want to arrange, sorts a row or column into order. This can be numerical, alphabetical, ascending or descending. For instance, a spreadsheet showing which of your customers owed you money might have the invoice dates in column A, the customers' names in column B and the amounts owing in column C. Arranging column A would shuffle the list into age of debt, bringing your slowest payers to the top of the list. Arranging column B would sort the list alphabetically, and arranging C in descending order would bring the biggest debtors to the top of the list.

Q: *Money, money, money – doesn't SuperCalc care about anything else?*

A: Yes. Although primarily designed as a business program, it does contain more refined mathematical functions, such as log, sin, cos, pi (to 16 significant figures) and square roots. It can be used in fields as diverse as engineering, knitting and central heating.

Q: *What is SDI?*

A: Nothing to do with /G(lobal)W(arfare). The SDI program that comes on side 2 of the SuperCalc disc enables you to import and export files to and from other programs, such as dBase II, and Basic listings. You can also make a plain text file of a spreadsheet by /O(utputting) it to disc.

Q: *What is a black box and what's in it for me?*

A: Didn't you read November's article? SuperCalc's eXecute command takes instructions from a file, rather than the keyboard, taking the drudgery out of typing in the same commands every time you use a particular spreadsheet. It can be used either while SuperCalc is running, or before it is loaded. For instance a handy file, called, say, START.XQT consists of just two lines.

/Iprog,a
&

When SC2 START is typed in at the CP/M prompt, or by a PROFILE.SUB file, SuperCalc will load itself, skip the introductory screen, load a spreadsheet called PROG.CAL and pass control back to the user.

Q: *I use continuous stationery. This causes me great embarrassment when printing out my spreadsheets as SuperCalc prints over the perforations between each of the sheets.*

A: There is nothing to be ashamed of in using continuous stationery. Thousands of otherwise normal men and women do this. The use of the PAPER.COM utility on side 2 of the Amstrad system discs will solve your problem, and the command is PAPER 11.

Q: *How can I achieve the ultimate start of day disc?*

A: This is partly a matter of your own personal needs and inclinations, but my own start-of-day-and-well-on-into-the-afternoon disc would contain the following files:

SC2.COM
SC2.OVL
SC2.HLP (or any file by that name)
DATTIM.COM

All these are from the SuperCalc disc, to which add, from side 2 of the Amstrad system discs:

J14CPM3.EMS
PAPER.COM
LANGUAGE.COM
PIP.COM
SETKEYS.COM
SUBMIT.COM

All the .CAL and .XOT files you need

A PROFILE.SUB and a KEYS.SC2 file, which you create yourself using RPED, LocoScript (make an ASCII file), ED.COM (showoff), or any other text editor, such as the excellent public domain VDE. The listings for these are shown in the boxes. ■

The key definition file- call it KEYS.SC2

```
16 N "↑'127'"
72 N "↑'#98'"
E #98 "↑A↑'127'"
E #8F "↑I↑_↑'"
57 S "#"
```

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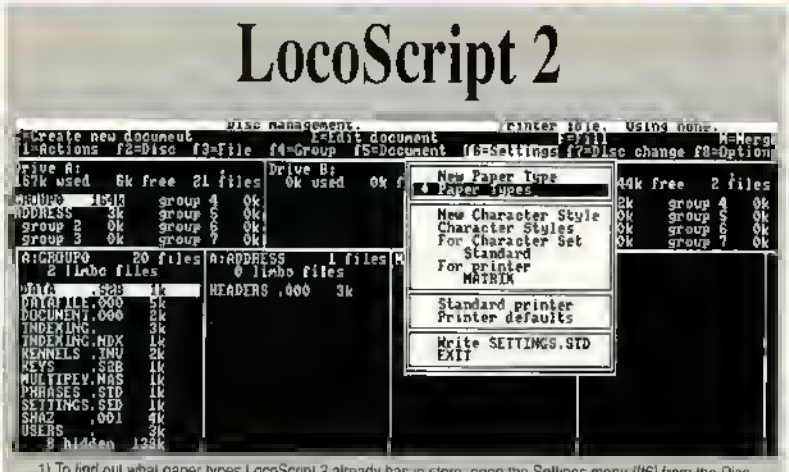
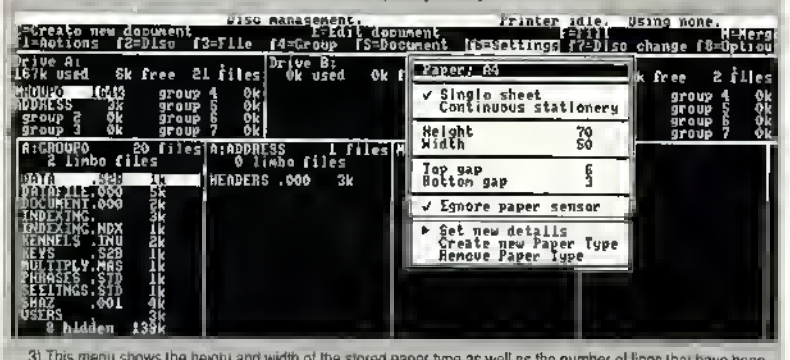
BIG PAGES AND LITTLE PAGES

We show you how to use different sizes of paper with LocoScript 2



1) To find out what paper types LocoScript 2 already has in store, open the Settings menu ([t6] from the Disc Management screen). Select **Paper Types**. ((This is the same menu which you must use to create a new paper type (select first option: **New Paper Type**). Once the new paper type has been created, select **Write SETTINGS.STD** further down to write it to the program's permanent Settings file.))

2) Select **Paper Types** and you will be presented with this menu. It shows which paper types have been written to the Settings file. To inspect any one of them, highlight the appropriate paper type with the menu cursor and press [ENTER].



3) This menu shows the height and width of the stored paper type as well as the number of lines that have been delegated to the top and bottom gaps respectively. When using cut sheet stationery, the top gap will always be 6 and the bottom 3.

One of LocoScript 2's major advances over its predecessor is its ability to handle different sizes of paper during printout. Up until now, we've only concentrated on using that most popular of sizes, A4. And, of course, many LocoScript users will be perfectly happy to continue using A4-sized printout; others have more adventurous requirements necessitating the use of alternately sized paper: large sheets of A3, for example, or smaller ones of A5 (respectively double and half the size of standard A4). And then there's 11" continuous stationery.

When using different types of paper, both the document that will be printed out on it and the software that control the printer have to be notified in advance as to its dimensions. The printer needs to know, for example, just how long or how wide the paper on which it will be printing will be. Similarly, LocoScript 2 – because it automatically splits your document into pages as you type in the text – must know the maximum number of lines that it can put on each page.

LocoScript 2 already holds the Paper Type details of A4, A5 and 11" continuous stationery in its Settings.Std file on your start of day disc. That's not to say, however, that you can't design your own paper types. LocoScript 2 can handle the details of up to ten different ones.

Get set, go

So, how do we get into this famous Settings menu to have a look around it? Easy. Insert your LocoScript 2 start of day disc in the drive. When you get to the Disc Management Screen, press [t6] to open the program's Settings menu. Choose the second option entitled **Paper Types**. The resulting menu shows the names of the three different paper types which LocoScript already – by default – knows about. Highlight the first option on the menu to see what details the program holds on A4-sized paper – and so on.

As we saw last month, the height, width, top and bottom gaps of the paper are all supplied as a designated number of lines. If you're a little confused as to why the width of the paper is also supplied in this form (ie, 50 lines) that's because LocoScript 2 allows you to turn the paper on its side and print on it that way too (a widthways Landscape format rather than the conventional lengthways Portrait one). Press [ENTER] to go back to the Paper Type menu we were at a moment ago.

Going for a different paper type

Once you've decided that you would like to print out your document on A5-sized paper, for example, you must get back to the document and prepare it for the new format.

Setting a different paper type means altering the Document Setup, a menu with which we should all, by now, be heartily familiar. From within editing mode, open the [f1] Actions menu and choose the **Document Setup** option. Once you're faced with that well-known array of menus at the top of the screen, open the [t5] Page one. Not surprisingly, perhaps, we're going to need to get into the Paper Type menu. Move down to the **A5** option and tick it using the [+] key to the left of the space bar.

You will then be prompted to specify which way round you want to use the paper: portrait (tall) or landscape (wide). Let's stick with portrait for the time being.

Just to make sure that everything is as it should be, choose the last **Show Paper Type** option. There, you will learn that A5-sized paper is 50 lines long, 35 lines wide allowing a top gap of 6 lines and a bottom gap of 3. Press [ENTER] to confirm all these details and go back to the menu we were at before; this time select the option which is second from the bottom of the menu: **Use Paper Type.**

Think again!

If the A5-size page is too short to accommodate the header and footer zones that you have set in your document's Page Layout, you will be presented with a LocoScript error screen which informs you that the page you have designed won't fit on the paper. When this happens you must do one of two things: either alter the Page Layout or choose a different paper type. Select the appropriate option.

And so to the printer

Once you have instructed the software to print out the document in question on A5 paper (through the **Document Setup**), you must also warn the printer. This couldn't be easier. All you have to do is start the printing process by placing the file cursor over the filename back at the Disc Management Screen and pressing [P].

LocoScript should present you with a screen that prompts you to change from the default paper type (usually A4) to the new or 'intended' one (the A5 paper type). Consequently, select the **Change to Paper intended for Document** option. LocoScript 2 then, with a minimum of intervention from you, has set up the printer for the same paper type as the document. You're ready to go!

Setting up your own paper type

This will involve making changes to the Settings.Std file, accessed from the Disc Management Screen by pressing [f6]. This time, however, you will want to access the **New Paper Type** option at the top of the menu. After the current paper type menu that is then displayed (it will probably be the A4 format details) to suit your new requirements. It is important that you enter these details – especially the line allocations – accurately.

The height and width of your new paper type are especially important and are calculated as follows.

Height = length (in inches) of paper x 6 (document base line pitch). This calculation will give you the length of the paper in line numbers.

Width = width of the paper (in inches) x 6.

To calculate the length of continuous stationery, measure the paper from perforated line to perforated line. It can only be printed on one way so its width is irrelevant.

With continuous stationery, the top and bottom gaps you decide on are purely arbitrary: 2 and 2, 3 and 3 – and so on. As far as single sheet stationery is concerned, you must always make the top gap at least 6 and the bottom gap at least 3. These allowances are the minimum that the PCW printer can cope with.

Extra sensory paper perception

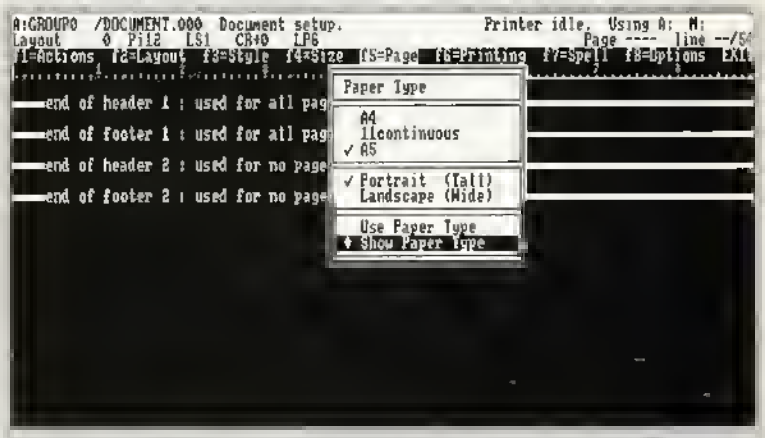
You can choose whether to **Ignore** [the] **paper sensor** or not. This will depend, however, on whether you are using continuous or cut sheet stationery. The paper sensor is something which has been built in to the printer and which detects the end of the paper on which it is printing. This is only useful, however, when using continuous stationery, as it will stop the printer from trying to print after the last sheet of the roll.

When using cut sheet paper, the paper sensor will, irritatingly, signal the end of the paper before you've had a chance to print out the page's last few lines. When using single sheet stationery, therefore, tick this option.

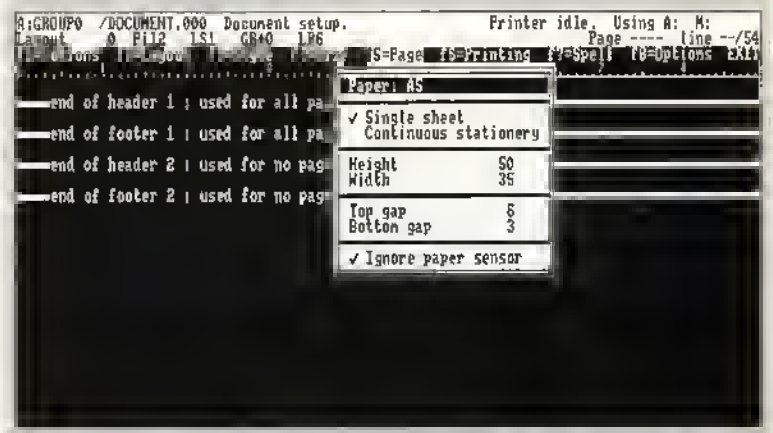
Naming and storing your new paper type

Once you've set up the details for your new paper type, don't forget to save it to a new name. Go back up to the top of the menu, press the [-] key (to the right of the space bar) to clear the old paper type name and key in the new one. This can be up to 12 characters long. Finally press [ENTER]. This takes you straight down to the single command option **Create new Paper Type** at the bottom of the menu. You will be returned to the previous menu.

All you have to do now is save your new paper type to the Settings.Std file to ensure that the next time you load LocoScript 2, it will be sitting there as a viable option ready to use. Check, therefore, that you have your LocoScript 2 start up day disc ready and waiting in the drive and select the **Write SETTINGS.STD** option in the Settings menu. ■



4) To print out a document using a particular paper type (A5, say), open the document (using the [E]dit key). Open the [f1] Actions menu and select **Document Setup.** Open the [f5] Page menu and highlight **Paper Type.** This menu allows you to choose the paper type you want to use.



5) Select the paper type you want to use – in this case, the A5 paper type – by ticking **A5** and selecting **Show Paper Type.** Once you've checked the relevant details, press [ENTER] and select the last option from the previous menu (**Use Paper Type**).

6) Back at the Disc Management Screen, check that the file cursor is on the document to print out and press the [P]rint key. This menu prompts you to switch from the current paper type to the one you've just selected.

Paul Kelly
Rubery
Birmingham
22.8.89

Dear Mr Atherton,

With the help of your Pro Punter software I have just landed two winning doubles and a treble across the first three races on the card of the first day at York. The fact that it predicted ILE DE CHYPRE to win the Juddmore International Stakes as a clear value bet in the face of the heavy betting on CACOETHES prompted me to risk a fiver on it. You can imagine how pleased I am that it came in at 16-1. Pro Punter actually correctly named the first, second and third in the actual finishing order and I do wish I'd gone for the Tricast!

I've been using the software since the Goodwood meeting in July and I can honestly say that I recovered it's cost within that first week. I've used it most successfully in the higher-class races although it performs well in any race where there is enough exposed form, including the very 'iffy' Maidens on the Flat. In fact, the only time it really gets things confused seems to be in the low-rated handicaps. Overall, I have found your program to be an excellent aid to stitching my bookie and I am very pleased to have to write and thank you for Pro Punter. I bought the program initially to try to get my father to believe that computers are useful even for pensioners. As he has been a keen punter all his life I thought that a tipster program might give him some enjoyment in his retirement, unfortunately I now find that I can't get him away from the keyboard!

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Access

BASIC EDITING

Steve Patient has a few words with RPED, the BASIC text editor that comes free with the PCW

The PCW computer comes with so much on disc that many users simply don't get around to using most of it. Apart from LocoScript, of course, there isn't a great deal of documentation concerning it all. The consequence of such obvious largesse on the part of Amstrad is that many PCW owners never find out how to use a lot of the software when and if they glimpse its potential. RPED, the BASIC utility, is a case in point: many users simply don't realise that it's there.

RPED is a text editor. When people talk about text editors generally, they are usually referring to simple, small programs which have been designed to write pure Ascii text files. RPED was written primarily to make the lives of BASIC programmers a little easier; it can be just as invaluable, however, for anyone who is in the business of regularly creating short text files – Submit files, for example.

8000 series owners will find RPED (along with a Submit file called RPRD.SUB) on side 2 of the master discs supplied with the machine. 9512 owners, on the other hand, will find it on their CP/M discs. To get the most out of it, and to make familiarising yourself with it as easy as possible, it's worth making up a start-of-day disc that includes the following files: BASIC.COM, RPED.BAS and SUBMIT.COM. Don't forget that you must also have your operating system file on the disc. This is the one that ends in .EMS on your CP/M disc.

It isn't worth including RPED.SUB for the following reason: every time you exit from RPED, you return to the system prompt (A:> or M:>). This is extremely irritating if you are using RPED to write BASIC programs, which is by far the most common use to which it is put. So the first thing you'll do with this new disc and your newfound text editor is to write a new ED.SUB file from which to run it.

With your new disc in the A drive type:

BASIC RPED

This will start BASIC, load the text editor, and run it all in one go. You will find yourself at the opening screen where you get several alternatives, none of which will seem particularly obvious.

Press for service

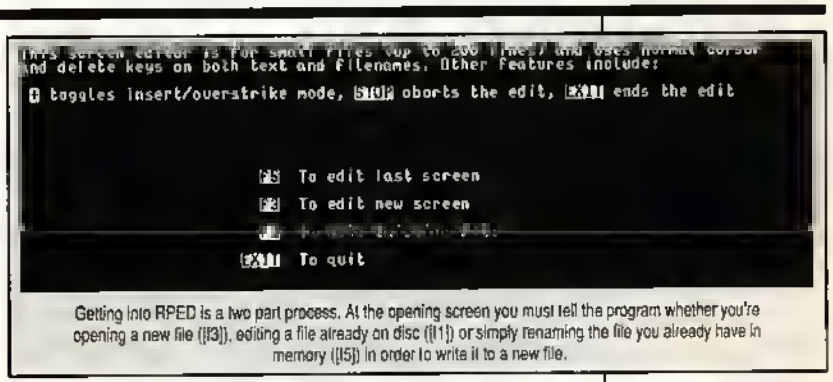
Press [f3] and you will be asked for a filename. The default disc drive is A, which will probably be all right. If it isn't, then the right and left cursor keys will move the cursor onto and off the drive letter, allowing you to change it. Now type ED followed by a full stop (to move to the filetype area) and then SUB. When you press [RETURN], you will find yourself in the editing screen with the cursor at the top right hand corner.

Type in the following lines just as you would in LocoScript:

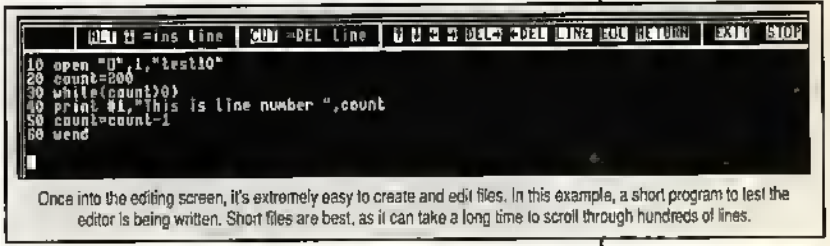
BASIC RPED [RETURN]
BASIC [RETURN]
ED.SUB [RETURN]

Now press [EXIT] and you will be back at the opening screen. Pressing [EXIT] again will take you back to the prompt – not to BASIC. You've just finished your first editing session in RPED. The reason for creating a new submit file will be explained later.

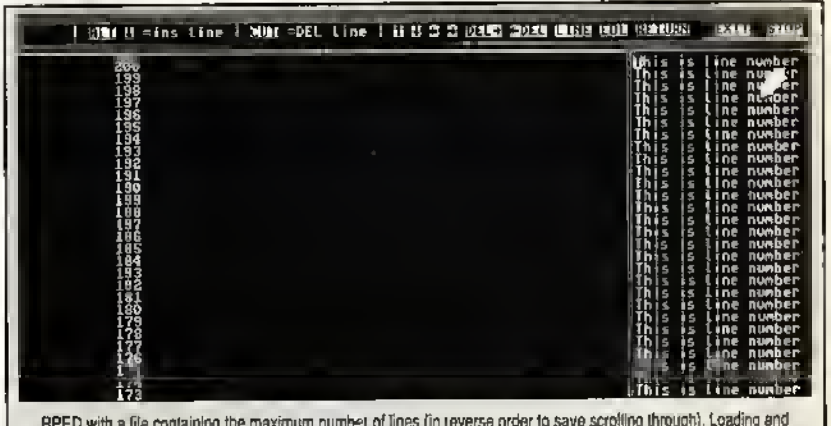
RPED was never intended to be a word processor;



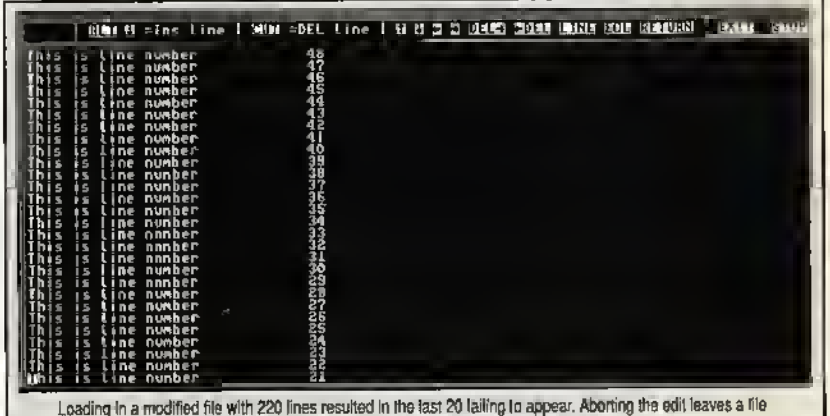
Getting into RPED is a two part process. At the opening screen you must tell the program whether you're opening a new file ([f3]), editing a file already on disc ([f1]) or simply renaming the file you already have in memory ([f5]) in order to write it to a new file.



Once into the editing screen, it's extremely easy to create and edit files. In this example, a short program to test the editor is being written. Short files are best, as it can take a long time to scroll through hundreds of lines.



RPED with a file containing the maximum number of lines (in reverse order to save scrolling through). Loading and saving a file of this length takes about four seconds.



Loading in a modified file with 220 lines resulted in the last 20 failing to appear. Aborting the edit leaves a file unchanged, but saving this one would lose the 20 lines for ever.

it affords as simple a way of writing a text file as possible. This means that you're now going to have to work very hard to forget all those clever things you learnt how to do in LocoScript. RPED will do almost none of them.

Go back into RPED and create a new file using the [f3] function key. Now you can do a little experimenting and see just how RPED works. The first thing to try is writing a line longer than the screen will allow. You will discover that when you reach the end, the last word doesn't wrap onto the next line. In fact, if you keep typing, you simply replace the last character in the line endlessly. The maximum line length you can have is 88 characters. It would be helpful if all listings sent to us were written using RPED.

Tops and bottoms

Using the right and left cursor keys in conjunction with the backward and forward [DEL] keys allows you to edit any line. As soon as that line meets with your approval pressing [RETURN] (from anywhere on the line) takes you to the beginning of the next line. You can't split a line by using [RETURN] in the middle of it.

Another thing you can't do is to join two lines together by pressing forward [DEL] at the end of one line or backward [DEL] at the beginning of another. Neither is there a Find, Replace or Page up and Page down facility of the kind you've been used to using inside word processors.

Having said that, RPED is a full screen text editor. Unlike the BASIC line editor, RPED allows you to move freely around the screen using the cursor keys. The screen will scroll down if you try to cursor off the top (provided there is any more of the file) and similarly it will scroll up if you hit the bottom of the screen. It's also quite friendly – if it has a lot of work to do it will politely ask you to wait (top right hand corner) while it works behind the scenes.

One of RPED's really useful features is that you can start writing from any point on the screen. The editor will fill in any preceeding gaps for you with space characters. This gives a very smooth feel when using the program. Against this, there is the fact that RPED doesn't accept the [TAB] character – nothing happens at all on pressing it.

Because it has been written in BASIC, RPED has a few major limitations. The one that produces most complaints from regular users is the 200 line limit. Since RPED works entirely in available memory, it has to have some way of limiting file size. Roland Perry decided to limit the number of lines. For those using short lines, it can be irritating to know that there is probably a lot of room left.

End of the line

Once you reach line 200, RPED won't provide any more lines on which you can write. Now this needn't be all that bad news; what is serious is that it throws any extra lines in a long file away. If you load source code written in another program and then save it again to a file with the same name, you will find that everything after line 200 has been lost.

The reason the limit isn't serious is that if you're writing files that long, the time it takes to get from one end to the other is unacceptable anyway. The 200 line file used to test the program took 33 seconds to scroll from beginning to end and 42 seconds to scroll all the way back again. If you're working with long files, you really need a dedicated programmers' editor.

If you're writing BASIC programs it really is much easier to edit them using a full screen editor, so it makes sense to use RPED, which is free. But to get the best from it you need to give it every chance. For example, all your working programs – BASIC and so on, should be loaded into drive M at the beginning of a session for speed. You can keep your program files on A for security but run BASIC from M.

Even with the extra speed of the M drive, constantly returning to the prompt is irritating. The little submit file you created right at the beginning can help. With all your programs on M, type

SUBMIT ED

and RPED will come up on the screen. When you quit RPED, BASIC will run automatically, called up by the Submit file. Of course next time you run RPED, you will again lose BASIC; this time, however, the Submit file calls itself which places you back into RPED. Quitting this puts you back into Basic and so on.

Since Basic takes just a second or two to load from drive M with no typing involved, the irritation factor is greatly reduced.

If you ever do want to get back to the prompt, just press [STOP] after pressing [EXIT] from RPED; it's all pretty simple really. ■

Technical writer

The RPED text editor was written by Roland Perry, who is Technical Director of Amstrad. It is found on the Amstrad MS-DOS machines as well, the PC1512, 1640 and so on. It shows just how useful – and how portable – programs written in BASIC can be.

Nutters only

If you really must have RPED, return to BASIC. There are two approaches. The first is to unprotect the program. Create an empty unprotected file, load RPED and merge your empty file with it; save it under a new name and you should have an unprotected version. Now you can find line 19 and change the SYSTEM command to an END. Alternatively, if you have a version of BASIC that won't do this, use SID's S command to change the encrypted SYSTEM token at address 05A1H from 2EH to 1DH in the original protected file.

Command structure

Although all the commands that RPED obeys – and there aren't all that many to learn – are included in the program itself, they aren't explained at all. Here's a complete list with brief details on each one.

Opening screen

[f1] Edit existing file – Choose this option to edit an existing file. You'll get an error message if RPED can't find it.

[f3] Edit new screen – This also refers to a file. If you want to create a new file, choose this option. If you do choose this and the filename you give exists, then the file will be overwritten.

[f5] Edit last screen – If you've been working on a file and pressed [EXIT], you can make RPED write to a new file. Useful for saving different versions of a file or creating backups.

[EXIT] – Quits RPED and takes you back to the command line – but see the main text for one way around this.

Editing keys

[+] – Changes from normal insert mode – where new characters can be inserted into text – to overwrite mode where new characters replace existing ones.

[EXIT] – Quits editing screen and returns to opening screen.

[STOP] – Abandons the current file you're working on and returns to the editing screen. If the file existed before, it is unchanged; if it didn't, then there will be an empty file on disc with the name of the abandoned file.

Up arrow – Moves cursor up a line; if there is one.
Down arrow – Moves cursor down a line – as far as line 200, where it stops.

Left arrow – Moves the cursor to the left margin, where it stops.

Right arrow – Moves the cursor to the right margin, where it stops.

[EOL] – Moves the cursor to the end of the current line.

[SHIFT][EOL] – Moves the cursor to the beginning of the line.

[RETURN] – Moves the cursor to the beginning of the next line.

[CUT] – Deletes the line the cursor is on.

[ALT][down arrow] – Inserts a new line below the current line.

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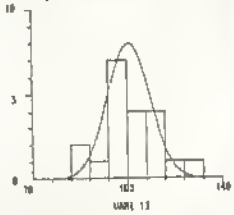

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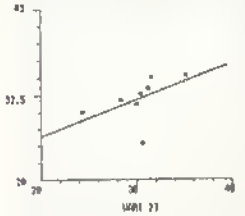

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"I will certainly be using them myself in the future and no reviewer can offer a warmer recommendation than that." Dr. Peter Morris, Amstrad Professional Computing, May 1987.

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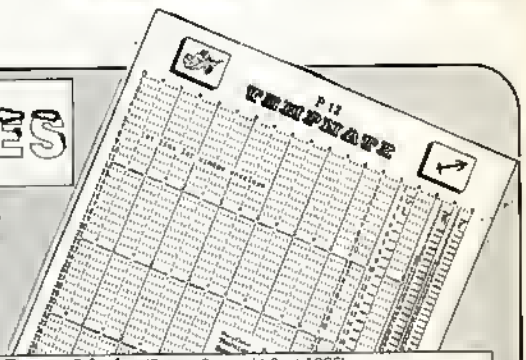

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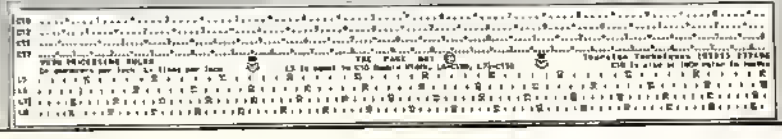

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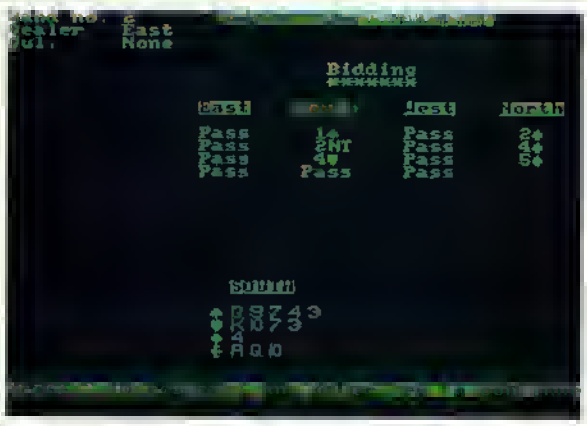
SUSPENSION BRIDGE

Cliche number 121 from a series of millions: bridge is for wealthy intellectuals. Think again with CP Software's Bridge Player Galactica 2150.



The bidding is over and you, as South, have played a blinder. Now are you ready to make that contract?

This looks very much like a walkover, but what do East and West have up their sleeves in order to foil your 5 diamond contract?

Obviously they had something. You can look back and see what went wrong or try again with another game.

Produce a 'game' package which includes a well written 88 page manual and you are probably on the way to a hit. Make sure that the manual is written with the guidance of a twice world champion and teacher at the London Bridge School and you will definitely impress.

CP Software's Bridge Player 2000 has been with us for a few years now. It has always played a good game. This new repackaged version looks very similar indeed when in play. Galactica 2150 retains the ALCOL system of play, and keeps its graphics to a utilitarian minimum; no playing cards or Omar Shariffs flying around the place. In the long run this is probably a boon rather than a bane to the serious player as it means that play is rapid.

The program accepts the use of five conventions including Gerber, Unusual No Trump and Grand Slam Force (Josephine). These are additions to Stayman and Blackwood which its predecessor understood. It will not, however, initiate any of them except in Tutor mode.

The Tutor mode is a slight misnomer for the complete novice to the game. You will still need to be aquainted with such arcane terms as 'singleton', 'ruffing' and honour points. For the slightly more advanced player – even the person who has just got to grips with the game – Galactica has a lot to offer.

Grand Slam thankyou mam!

You always play South except when your partner becomes the declarer; you then play both North and South. This avoids you having to take the position of Dummy and having to sit back and watch the play. You can choose to play a very basic game with the computer dealing random cards and all four players' hands showing. If this bores you, then you can deal with only your hand showing.

These options alone should keep even the most avid fan exploring the program for a good few evenings. It must be said that Bridge is essentially a social game and the really serious player will probably miss some of the cut and thrust which goes on within bidding and play. Then again, the really serious player could be making large amounts of money playing the game. With this in mind, it is a good idea to take your time over the tutored hands which are detailed in the manual in a pleasantly concise manner.

Lead by the hand

You can choose to play hands in any order depending on your preference for Finesse, Squeeze, or the many other possible permutations. You are not nannied by Nicola Gardener (the co-writer and world champ) who comes up with lines such as this one from hand 96: 'North leads S9 (nine of spades) to your SA (ace of spades) – there is no point in holding up.' This particular hand introduces you to the 'entry destroying play known as the Merrimac coup'. As you can see, the play is not only detailed, it is given some verve.

Play away-way

During the bidding and play itself, pressing the space bar will allow the computer to make the best bid for you. This is a type of cheat mode which, if used properly, can be as useful as the tutor. Play is fluid enough to give a good player a run for their money. You can choose to have most points in every deal but this will probably begin to grate after a while. The best way for the advanced player to use Galactica 2150 is with randomly dealt hands. Once completed, the game can be saved to disc allowing you to relive your victories or defeats at leisure.

BRIDGE PLAYER GALACTICA 2150

GRAPHICS	2/5	FEATURES	4/5
DOCUMENTATION	5/5	CHALLENGE	4/5

8000 PLUS VALUE VERDICT 15/20

In a nutshell

A worthy improvment on an old favourite Quick play Loads of options. Dull graphics and no atmosphere. The new manual and tutor make up for most faults. All in all, worthy of the Chrismas stocking.

GHOST ENCOUNTER

Put down thy spreadsheet and play. That's the order of the day as Tim Smith takes a look at Level Nine's new text and graphics adventure, Scapeghost.

The PCW is an ideal machine for the text adventure. Previous games such as Gnome Ranger, Launcelot and The Hitchhiker's Guide to the Galaxy have proved this to be true. Scapeghost looks set to join this roll call with a place of honour.

The game is split into three sections. These can be played in any order, but be warned: the chances of surviving part two without first gaining experience from part one are negligible. This goes double for part three!

You play In-Specire Alan Chance (as in 'ghost of a..') which should give you some idea as to the humour involved in the game. Your first realisation is that you are dead. It then transpires that you have been framed and that the real crooks include an officer in the drugs squad. This is more than one red blooded bobby can take, even if the blood is a trifle clotted by now. Your task, in the three nights left to you on earth, is to clear your name and nab the real crooks.

As a new ghost, your powers are weak and you will need to gain some allies. Luckily you are presented with ghostly comrade-in-arms, Joe Danby, the local publican. He becomes your 'spirit' guide. Joe is a friendly soul who introduces you to the other inmates of the cemetery.

Soul searching

Some of the solutions require lateral thinking which is so lateral it is almost offside. Others are fairly straightforward once you've cracked the humour of the writers. This is essential by the way. None of the puzzles are too difficult for the beginner, nor would they insult the more experienced adventurer. The only hint we're prepared to drop about the first section is that you should be nice to animals.

The atmosphere throughout part one is very effectively built up with the help of some very good characterisations. Your allies are all fairly eccentric characters and give a distinctly gothic feel to the plot. There are also very few Sam Spadeisms.

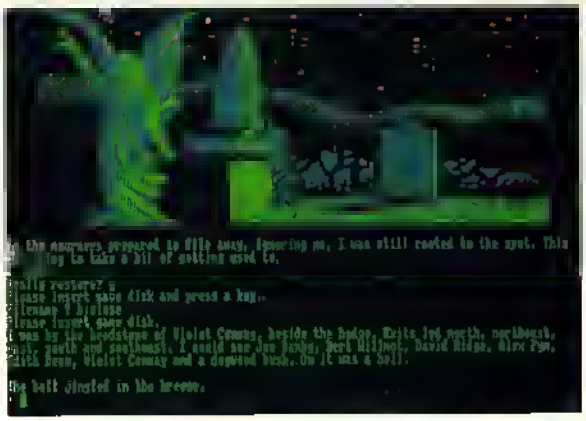
Once you have made your way through the first night, foiling the villains along the way, you enter a very different atmosphere. The first thing to do is to save the game position to disc. This will keep your score and save you having to replay part one in future. The second night sees you accompanied only by Joe who appears to have developed a touching dog-like attachment to you. You're the one in control so don't worry if he drifts off occasionally; he'll be back.

Shiver my timbers

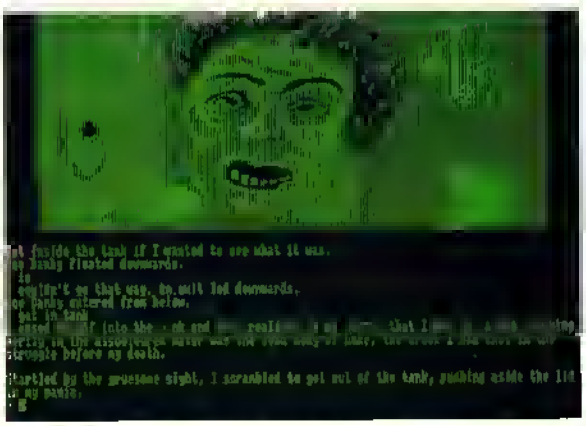
You are allowed out of the cemetery in order to investigate and collect evidence from the crooks' old hideout. This place holds some terminally bad memories for you. A nice touch from the writers makes this section extraordinarily effective: by concentrating very hard, you can call up past images. These are conveyed by a combination of some quite spine-shiveringly spooky writing and excellent graphics.

But there is work to be done and a time limit to keep in mind. Still accompanied by Joe, you have not only to collect the evidence and make sure the authorities find it. You also confront the first real nasty of the game.

Once you've done the business, it is time to confront the crooks in part three. One more warning: the third night is packed with danger and – rather disconcertingly – with brand new characters all of whom you 'knew' at some stage in the past. Watch out for light and remember that the time has come to get physical. The crooks are aware of you and the puzzles are real brainteasers. Once again the graphics add to the game. If you can finish Scapeghost in one attempt, you must be cheating.



If you don't watch out, this could be your home for the rest of eternity. Although the inhabitants are friendly souls, this really does not bear thinking about.



This fellow took the eerily bath and might well be joining you in your ghostly wanderings before you know it. Play the game for too long and you could end up looking like him.

No it isn't 'Rather annoyed of Pinner' and frankly you really don't want to know who it is. The best thing to do in situations like this is run very fast.....or is it?

SCAPE GHOST

GRAPHICS	5/5	ATMOSPHERE	4/5
CHALLENGE	4/5	ADDICTIVNESS	4/5

8000 PLUS VALUE VERDICT 17/20

In a nutshell

Great atmosphere. Strong graphics. Should keep you playing for hours. If you want dwarves, damsels, sword fights and thumping, then it's not for you. If you want a good story, brain work and awful puns then get cracking!

SELF-ASSEMBLY

Build a complete assembly language package using public domain utilities – Steve Patient suggests the best

When CP/M first appeared, the existing assemblers – ASM.COM from Digital Research or the alternative from Digital Research's competitors, Microsoft M80 – were very expensive; you could have bought a good second-hand car at the time for the same price. When MAC and RMAC, first appeared, they were equally expensive. Now you get them for absolutely nothing with the PCW, yet people, it would seem, are still not completely satisfied.

There are two good reasons for this: the first is that there is no documentation available (Digital Research never did supply it with the PCW and have now ceased supplying it altogether); the second is that these utilities do not understand Z80 opcodes (using the Zilog mnemonics), only the earlier codes of the discontinued 8080 chip (Intel mnemonics) – for which there are no useful books in print. (We're not counting Ian Sinclair's book on 8080 assembly, which fails to get beyond assembling simple routines using the Assemble command of SID, is mostly concerned with the CPC range of machines and rapidly deteriorates into Basic).

Because of the high price of these utilities, many programmers wrote their own. Some of the resulting assemblers were very strange, most did the job, and nearly all were free. The CP/M and MSDOS User Group (UK) still have virtually all of the public domain assemblers in their libraries. Those that support the Zilog Z80 opcodes are well worth a close look.

You must also remember that whether you buy a commercial assembler or practise on a public domain package you will still have to buy books on Z80 code, programming and the PCW. There is no way to learn low level programming without access to books on the PCW, assembler and CP/M. Fortunately the continuing popularity of the Z80 chip ensures a ready supply of literature on the Z80 and there are several excellent books on the PCW. Good source books are Michael Keys' PCW *Machine Code* and *The Amstrad CP/M Plus* by Andrew Clarke and David Powys-Lybbe.

Join the Library

All the programs discussed can be obtained from the UK's largest public domain library, the CP/M and MSDOS User Group (UK). For a membership form, write to Diana Fordered, 72 Mill Lane, Hawley, Dartford, Kent, DA2 7RZ. Membership is £11.50 per year and includes access to the bulletin board. You can download the software (there are thousands of programs) and save on copying charges.

Where to look

In the UK library, there is a straight replacement for the original ASM called Z80ASM; as you might guess, it recognises Z80 codes. It comes complete with the entire source code – in assembler – for those who like to know how these things are done. There isn't a great deal of documentation – though the 57K of source should give you some idea of the usage. Z80ASM produces COM files only and won't produce REL files; and it can't handle macros. It has no debugger with it and so can't take you very far into serious programming on its own, but it does work well.

There is an improved version of this package called ZSM (written by Neil Colvin). This comes with better documentation, 84K of source code and some very interesting test files. It compiles source code to HEX files which then require the use of the HEXCOM.COM utility supplied with the PCW to produce a COM file. ZSM is probably the best stand-alone assembler in or out of the public domain. It's easy to use and has to be an ideal choice for anyone starting out on Z80 programming.

For those who want REL files the best choice is the ZMAC, ZLINK combination. This is a much under-rated assembler that comes on SIG/M 224 (and you get a free C compiler with floating point math thrown in too). ZMAC has a couple of odd quirks (using '=' rather than 'EQU' is the best example) but it still remains a very fine assembler.

Bolt-on goodies

Getting an assembler is only half the battle. The debugging facilities of SID aren't much use to Z80 programmers – it can't disassemble Z80 codes. There is also the problem of learning how to use it. In the public domain there is a very fine debugger/monitor called Z8E, written by Rick Surwild. The only debugger that appears able to outperform this is the one that comes from Arnor with Maxam (which is the only one I know of that can show you what's happening in banked RAM).

Z8E is on SIG/M 239; it comes complete with source code and a massive manual on disc. The manual runs to over 100K while still compressed, and expands to well over 160K. Printed out, it is one of the best manuals you're likely to come across for any piece of software, and goes a long way to explaining many facets of programming and debugging practice.

While Z8E can disassemble programs with ease, it is better to have a dedicated dis-assembler. One of the best is DISZ80, which you'll find in the UK library on volume 21. This comes with the ZSM source code so is worth looking at anyway. As a bonus, you get the ECCE text editor on UK 21; an editor that allows you to alter the way it works. You can have a lot of fun with ECCE (Edinburgh Compatible Context Editor.) There is another disassembler on UK 22 which looks good, though we haven't tried it yet.

Now see this

As good as ECCE is, it still doesn't rate as a full screen editor. You can't just wander up and down as if there were an endless scroll of paper behind the PCW screen. For a complete assembler programming environment, you do need an editor; the best one in the public domain is undoubtedly VDO25. This is a small (7K) editor that obeys a subset of the WordStar command set. It's extremely fast in use and can handle any file that will fit in memory – up to 54K on the PCW. You can find this tucked away on SIG/M 282 alongside a huge mailing database in Pascal.

Unfortunately, the library file appears not to have the install program, which means you have to do it by hand. This is easy enough – all the information you need is in the documentation – and it will give you a chance to practise with Z8E. For those who want to enjoy an easy life (why on earth are you reading about assemblers?) VDO25 and its cousins are available from a variety of other libraries already installed for the PCW.

So there you have it; the combination of VDO25, ZSM and Z8E, together with a few good books, will see you through every step of the way – from beginner to competent Z80 assembler programmer. ■

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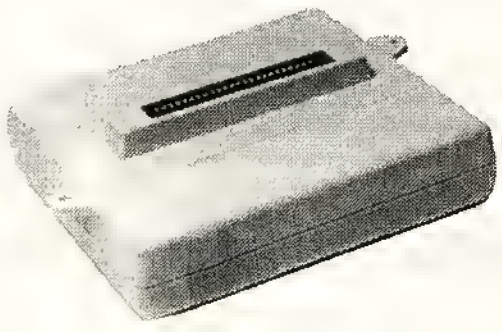

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RINGING THE CHANGES

In the last of the present series, Larry Whitlow shows you that no decisions are final when he changes his mind mid print-out

Picture the scene: you're just about to print that document you've been slaving over for days. It could be the last chapter of your first novel, or perhaps something even more important: that feature you promised would be on the 8000 Plus editor's desk a week ago last Tuesday.

There's just one little technical gremlin worrying you: during the printout of the document, you know that you are going to want to change your printwheel. You're not sure but you suspect that there will probably be some nasty traps lurking in store for you. You might be right, of course. Allow us to guide you through the tangled maze.

It's a fact of life that, when printing documents, printwheels often need to be changed. This may be because you want to use another character style of the same or different pitch, or it may be because you would like to try another language character set.

With the PCW 9512, the only facility in LocoScript 2 which allows you to perform this task is the end of page marker which appears across the screen at the end of one document page and the beginning of another. This only allows printwheels of the same character style to be changed; there is no provision for changing the language character set.

It is possible to intervene during printing and stop the printout mid-flow by pressing the [PTR] (printer) key. The printout will grind to a halt at the end of the line being printed. As we've just said, however, this only allows printing with a new printwheel; it doesn't allow you to change the language character set.

Right petal?

LocoScript 2 does not offer any natural or easy provision to the multi-linguist for changing to a different language-set printwheel in the middle of a printout. To understand why this is so, it's necessary to know something of what happens when a character is typed into a document and when it is printed out. When a key is pressed during the creation or editing of a document, the program refers to what is, in effect, a table to see which character that key represents in the particular keyboard program being used.

It enters the Ascii code for this character in the document. During printout, the program looks to yet another table to find out which petal on the printwheel this character corresponds to; it needs to do this before it can position the printwheel to print the character. This table is different for every language character set and so it is important that the printwheel corresponds to the language character set loaded in the printer, since some of the characters on the printwheels are different for each set. If the printwheel and the language character set in the printer do not correspond, then some wrong characters will be printed out!

To fix the language character set used during the editing or creation of a document, press [f1], select 'Document Set up' and press [ENTER]. To access the printing mode, press [f6]. This selects any language character set installed in Locoscript 2 (only the English and the Swiss /French character sets are installed in the software supplied with the PCW 9512).

The character style can also be selected at the same time. This is something that is easily changed in the course of typing out a document; that way, it can vary throughout. However, the language character set is always determined for the whole document; you can't change it within the document – at least not without a little ingenuity.

Changing the language character set in the printer mid printout

This can be done in two ways; the first is carried out from the Disc Management screen. Select any document which has the same language character set as the one required, press [P] then [ENTER] for a printout. When the display appears, select **Change to Set/Style intended for documnt** and press [ENTER]. A new display should appear – select the option **Cancel operetion** and press [ENTER]. The program now returns to the Disc Management screen; this time, the printer is set for the desired language character set, which remains unchanged even though the print mode has been cancelled.

The second method creates an 'insert-document' containing the text to be printed out with the different printwheel; this is set up for the new character set. This insert-document should have the same layout as the originel document but with no heeder or tooter. During the **Document set up** the **Printing** setting should select the new language character set, and the 'Pege fayout' should be set to **Header and Footer zones** of zero.

The text in the current page to be printed with the new printwheel is pasted into the insert-document. If it goes beyond the current page, this will have to be printed as part of the main document after the insert-document has been printed. This is because the next full page to be printed after the insert-document, must have the same page layout and numbering es the main document.

If the last line of the text to be printed out with the old printwheel is not terminated with a Return character, then the first character of the insert document must be a Return. This is because when the printing is stopped by pressing [PTR], it will stop on the same line, unless there is a Return character et the end of it.

Changing the printwheel at a page boundary

A few cautionary words before you start: in all the following instructions, it is assumed that if e printwheel with a different pitch is to be used, then the relevant pitch setting has already been set in the document at the appropriate point.

(1) When printing stops at the end of the page immediately before the one to be printed with a new printwheel, you should insert the new printwheel.

(2). If the new printwheel only differs in style or pitch, then load a new sheet of paper and press [EXIT] to resume printing with the new printwheel.

(3) If the new printwheel has a new language character set, then change to the Disc Management screen. This will have been done automatically if the original **Print instruction** had been selected only for the page just printed. If, however, it has not been done as a matter of course, press [PTR], then [f1]. Select **Abandon printing**, and press [ENTER] followed by [EXIT].

(4) Set the new character set in the printer using the first method described above.

(5) Select the original document and press [P], but do not press [ENTER] yet.

(6) When the display appears, select the option **Print part of document** and press [ENTER].

(7) When the next display appears, set menu to start printing at the next page and to stop at the appropriate page, end press [ENTER].

(8) When the display appears saying **Character set end/or style differ**, select **Use the current Set/Style**, press [ENTER]. The usual printing instructions should now be followed. Press [EXIT] to start printing.

Selecting where to change the printwheel

All the printwheels currently available, with the exception of Greek and Latin, have about 80 common characters. They are (A to Z, a to z, 0 to 9, ¡ ! $ % & ( ) * + , – . / : ; = _). Greek Latin has the same except for the lower case letters. Thus most of any document can be printed out with any printwheel, provided that the same character style is used for the various language character sets.

When it becomes necessary to change a language character set for some other characters, it may not be necessary to change back to the original set. Even better, it is often unnecessary to change printwheels immediately before the new character is needed – it may be possible to change over at the start of the page in which this character is to be found. Careful consideration of the document will show that the difficulty of changing the printwheel in the middle of a line is seldom necessary.

'Daisy, daisy...'

Daisywheel printers take all their characters from a print wheel, which looks rather like a daisy and which is hit with a small hammer every time you want to print a character. Different printwheels have a different set of characters on the ends of their petals and even where they do have the same characters, the characters won't take up the same space on printout. Before you can do any printing, LocoScript needs to know which characters the printer can produce, the order of the characters on the printwheel - the character set and, finally, their character pitch.

Changing the printwheel at the end of a line

If this only concerns a change of style or pitch, the procedure is simple:

(1) When the line before the point where the new language character style is to be used is being printed, press [PTR].

(2) When the printing stops, insert the new printwheel and press [EXIT]; the printing will resume with the new character style.

If a new language character-set is to be used, you must make an 'insert-document' containing the text to be printed with the new printwheel on the current page.

The text pasted into the insert-document should not be cut from the original document, otherwise the pagination and numbering of the document will be altered. The changeover procedure is as follows:

(1) When the line before the point where the new language character set is to be used is being printed, press [PTR].

(2) When the printing stops, press [f1]; select **Abandon printing**, press [ENTER] then [EXIT] to return to the Disc Management screen. Do not touch the paper in the printer!

(3) Select **Insert Document** with the cursor, press [P] then print as usual.

(4) When the message **Paper please** appears at the top of the screen, press [PTR] then [f1].

(5) When the menu appears, select **Resume printing**. Press [ENTER] then [EXIT]. The insert document will now print.

If this insert-document is to be followed by another insert on the same page, then the printing should be stopped at the appropriate place by pressing [PTR]. If you don't do this, the paper will eject after the first document has printed out. If the text with the new character-set extends to the next page, when the system returns to the Disc Management screen, the original document is selected and printout is initiated to start at the next page. When the **Character set and style differ** display appears, select the option **Use the current Set/Style** and print as normal.

Changing the printwheel in the middle of a line

Before creating the insert-document, some preparation of the text which is to be printed out is necessary since all changeovers must take place at the end of a line or at the end of a page. The procedure you follow will depend on whether there is to be a change of pitch, or language character-set, and if justified text is to be used or not.

If the new printwheel involves a change of character pitch, then the new pitch must be inserted in the line immediately before the changeover point; press [RELAY] so that the text layout is adjusted to the new pitch.

(1) Press [f8] and set options to show **Blanks** and **Spaces**.

(2) If justification is not being used, go straight to step (3). Otherwise, replace all **Blanks** with **Spaces** in the line where the changeover is, so that the line is fully justified without any **Blanks** being used.

(3) Insert **Line Spacing 0** and [RETURN] immediately before the first character to be printed under the new character style.

(4) Insert sufficient leading spaces so that the first word in the 'new' line that has just been created starts at the same position that it occupied in the original line.

(5) Set **Line Spacing** at the beginning of this line to its previous setting.

(6) If the new printwheel has the same character-set but a different pitch, insert the pitch change in the text immediately before the first character – not space – of the new line. If it has a different character-set, copy the text from the start of the new line to the end of the page (or new changeover point) into a block ready for pasting into the insert-document.

To print out the insert-document, just follow the procedure described in the section 'Changing the printwheel at the end of a line'.

Style council

Two printwheels having the same character set are differentiated by their character styles. This means that they have been designed for use at different pitches. Courier 10 and Courier 12, for example, will contain the same set of characters, but one will be for use in 10-pitch documents, the other for use in 12-pitch text. These details are stored in special printer files on your LocoScript start of day disc.

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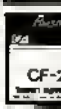

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The [illegible] interface is sturdily built, extremely well-presented and comes with an excellent manual.

There's no doubt that Amstrad have marketed this one well; it looks good and feels solid. The high point of this package, though, is undoubtedly the manual. Too often PCW owners are left confused as to how to perform in detail various functions via an interface. This manual devotes at least a page (with pictures) to virtually every alliance it's possible to make using an RS232/Centronics interface. It starts with a picture showing exactly how the interface is fitted, and begins with those memorable words 'Switch off the computer...'.

The manual continues with instructions on how to connect serial printers with much good advice on how to get one running properly – an irritating process since it involves altering baud rates, framing bits, and other remotely esoteric drill practices.

It offers advice on connecting computers to each other via cables or modems, redirecting the standard internal printer output to the interface (and back again) as well as instructions on how to use the supplied comms program MAIL232. Since MAIL232 doesn't support Xmodem protocols (for example), the advice on transmitting program files as HEX files isn't quite right so you can ignore it; you can transmit COM files but you will need a better comms program than MAIL232 to do it.

The last few pages of the manual incorporate cabling details for computer to computer (null modem), computer to modem and computer to serial printer connections. Full marks to Amstrad for including it. The booklet concludes with technical information on the RS232 and the Centronics ports. This includes the pin outs and the various signals that the different pins carry. Almost everything you could ever want to know is here – plus a lot you probably won't ever need to know.

CPS 8256 INTERFACE

PLUSES	MINUSES
▲ Excellent documentation	▼ Expensive

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PCW Interface

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The Micro Control Systems interface is well up to the job and boasts a serial port you can screw cable connectors on to.

The least professional-looking of the interfaces we looked at. It has a tacky feel and leaves the green circuit board completely exposed on the underside. Once it's screwed into position, you can't get at it anyway; it just looks half-finished. It is, however, a perfectly sound piece of kit and does what it's supposed to.

One feature it can boast is its industrial strength RS232 connector with screw fittings. Amstrad have tended to supply serial connectors of an especially cheap construction that just push in. Most of the computer world boasts serial connectors with tiny fitted screw sockets to secure the connection against accidental dislodgement. Cables with matching screws are often fitted with milled grips so that they can be easily attached and removed just using your fingers. For anyone who has to do a lot of data transfer or works where wires can be pulled about, these connectors are essential. This interface was the only one that had such a connector fitted.

The manual looks like a photocopy which has been put together by someone intent on getting the job done as fast as possible. The details on making up cables don't include a null modem cable for computer to computer work. However, it does cover the use of MAIL232 for simple comms. The person who wrote it clearly understands his (or her) subject but does little to explain it to the novice interface user. The overly-concise 'Send STX, listen for ACK' in the MAIL232 section, for example, is a little obscure.

Unless you can get this interface more cheaply than its Amstrad neighbour (which doesn't after all appear to be the case), there seems no good reason for choosing it in preference to that better-made device. That said, if you want it, it will do the job just as well.

PCW INTERFACE

PLUSES	MINUSES
▲ Has an industrial strength calibre RS232 connector with screw fittings	▼ Poor presentation ▼ Not recommended for the novice

EASE OF USE	2/5	PERFORMANCE	5/5
DOCUMENTATION	3/5		

8000 PLUS VALUE VERDICT 10/15

You can't get there from here

Under CP/M, the PCW (all three models) can redirect input and output to go via the RS232/Centronics ports using DEVICE. Under LocoScript, matters aren't quite so clear-cut. Under LocoScript 2, printer output can be sent via the interface to a parallel printer. Under LocoScript 1, if you want to use another printer you'll need an upgrade as well as an interface.

When Amstrad laid out their original list of requirements for the PCW 6256, they specified a high level of user-friendliness. It was LocoScript which ensured that the Amstrad PCW would be easy to get on with from day one. Cynical computer journalists, however, were quick to point out that the [illegible] that this shortcoming was crippling its use as a serious machine. The introduction of the CPS8256 provided Amstrad's timely retort. This provided both a serial port (useful for all kinds of communications) and an industry standard Centronics parallel port (used only for third party printers). It seems unlikely that it was a mere afterthought for a casual glance at the rear of even the earliest 8256 revealed the protruding board edge carefully protected by a wide, deep slot in the casing. Since the board edge gives access to the PCW bus, the PCW isn't restricted to the [illegible] kinds of interfaces, a fact which is exploited by hard disc manufacturers and games houses alike. While the Centronics port allows you to use a third party printer, the serial port can connect a wider variety of devices – from printers to modems to other computers. Let's take a look.

SCA Systems Professional

£49.95/£59.95 ● SCA Systems ● 0903 700288

The SCA interface offers a lot more than bare functionality; the software extras - including the program that accesses the built-in clock - make it a good buy

This one's got to be the ultimate in designer interfaces for those who simply have to have the latest thing in bolt-on goodies. It's the only RS232/Centronics interface that comes with a disc; it needs this for various programs, including the one that allows you to access the built-in battery-backed clock (on the £59.95 version only). This really is a very nice feature; it allows you to include a command in your PROFILE.SUB file (TIME.COM) which sets your PCW system clock to the correct time automatically whenever you switch your computer on. This comes in very handy if you're in the habit of date-stamping files. If you've already got an SCA interface, you can buy the clock separately.

Another program on the disc allows the PCW to use another terminal (a special kind of serially-linked screen that's usually attached to a mini- or mainframe computer used in business). This could be one way of getting hold of an improved screen display.

On the disc there is also a basic listing which will allow you to take advantage of your PCW's new found ability to keep perfect time in your own programs. There is an interface test program and finally there is a terminal emulation program of interest only to the seriously technical buyer.

The manual is the shortest and smallest of the lot even though it tries to cover more ground (including a comms program in Basic). It doesn't go as deeply into the technicalities as either of the other two offerings. This is understandable in a way – anyone thinking of attaching dumb terminals to his or her PCW, probably already knows exactly what they're doing. As for the [illegible] program – and the [illegible] that you can make appear on your PCW using CLOCK.COM – these are so easy to use that they need little documentation.

SCA SYSTEMS PROFESSIONAL

PLUSES	MINUSES
▲ The clock optional area is an important and useful one	▼ Poor shallow documentation
▲ Lots of extra software supplied	

EASE OF USE	4/5	PERFORMANCE	5/5
DOCUMENTATION	3/5		

8000 PLUS VALUE VERDICT 12/15

Parallel I/O Interface

£55.95 plus VAT ● SM Engineering ● 0323 766262

The Parallel I/O interface is designed to aid the teaching of control applications using computers.

This is perhaps one of the most innovative interfaces you can buy for your PCW. This product is for the serious hobbyist or for schools and colleges seeking an inexpensive way to teach computer control applications. The Parallel Input/Output Interface comes with a complete set of fact sheets for users as well as a disc full of sample programs in both Basic and Assembler. These show you how to use, not just the interface, but the various boards SM Engineering build to allow it to be used as a teaching and development tool. Some knowledge of low-level communications will be required to put it to use.

SM Engineering supply a variety of devices that can be attached to their interface. These include a speech synthesiser, an LED board that allows you to check that the signals you want are appearing on the correct lines, as well as stepper motors and control boards for robotic applications.

The interface also allows the PCW to be used as a developments platform for Z80-based controller applications. Programs can be written and debugged on the PCW and then put on ROM. SM Engineering supply a ROM controller board that pretends to be a PCW, right down to the edge connector itself. Any application that can be run from the PCW using the interface can then be run from the much cheaper controller board once it is operating properly.

The Parallel I/O Interface allows the PCW to send or receive on up to eight lines simultaneously via two separate 26 way IDC connectors. In fact, the way things are set up, you can actually address four separate ports via the two connectors. This interface may look expensive but it will allow your PCW to do industrial-strength computing. As an engineering and software design company, SM Engineering will also make up boards to your requirements.

PARALLEL I/O INTERFACE

PLUSES	MINUSES
▲ Fully supported by range of SM products	▼ Not ideal for the absolute beginner
▲ Wide range of features	▼ Expensive

EASE OF USE	2/5	PERFORMANCE	5/5
DOCUMENTATION	2/5		

8000 PLUS VALUE VERDICT 9/15

Keep it clean

The connectors on the board edge protruding from the PCW are tin- plated rather than gold-plated and corrode over a period of time. If your new interface fails to work (or isn't even shown on the sign on screen) try cleaning the edge connectors with a hard rubber. This often does the trick.

Joycestick (and) Interface

£19.95 ● Cascade Games Ltd ● 0423 504526 ● 8000's only

Mouse and Interface

£69.95 ● Kempston ● 0234 841224

The Joycestick and the Kempston mouse, complete with dedicated interfaces

Since the expansion port gives direct access to the PCW hardware, it's possible to attach other kinds of kit to it – including things Amstrad probably never originally intended.

These oddities usually support one particular gadget and include the Kempston mouse and the Cascade Joycestick pictured right. The trouble with these two product interfaces is that they monopolise the expansion port.

The Kempston mouse interface does not allow the piggy-backing of other add-ons. Included with the mouse, however, is a device driver that will let you control the cursor within many CP/M programs using mouse movements. This is a useful way of extending its use.

The AMX mouse, on the other hand, is quite different to its Kempston counterpart in that its interface comes with a through connector. This means that your expansion port is not monopolised by the mouse alone so that other add-ons can be enjoyed - like an external printer.

The Joycestick is another good example of dedicated gadgetry. Unless you are an enthusiastic games player, it's unlikely that you will want to tie up indefinitely the expansion port on your PCW just so that you can play games. That is, however, the only use to which you can put a joystick. Nothing is better guaranteed to damage the edge connectors on the expansion bus more thoroughly than constantly fixing and removing connectors.

The Joycestick has its limitations. For a start it's expensive and doesn't work with all games. The price includes a flight simulator game (so you get a disc) as well as a Spectravideo joystick which can be used on other computers. It has the standard 9-pin D-type connector found on a variety of joystick ports and will also work on an Amstrad CPC464 machine.

The Joycestick is a good buy for those who have a games machine as well, but otherwise is of limited interest to PCW owners.

Through here

If you want to piggy-back one kind of interface onto another – for instance, a mouse for DTP work – then you have a problem. None of the available interfaces have the necessary through bus.

The answer is to contact SM Engineering who can modify your interface so that it does have one. Contact them on 0323 766262 for details

Technical Talk

The strip of motherboard that sticks out of the back certainly can't hurt you but you can hurt it very easily. All those little metal strips constitute a bus, a vehicle for the transference of information between the machine and compatible devices.

These strips are connected directly to the Z80 chip in the PCW and provide direct access to it. The main problem with this is that the Z80 chip is delicate (electrically that is, bouncing it off the floor won't hurt it) and shorting those little tags can kill it. For this reason, you must never attach or remove interfaces unless the PCW is turned off.

On the plus side, the availability of signals makes adding peripherals via the bus relatively simple. The important thing is to buffer the signals. This means beefing up the weak bus signals and protecting the Z80 from anything the outside world might do.

The chip normally used to do this is a Z80 DART (which stands for Dual Asynchronous Receive/Transmit). This chip takes the signals from the Z80 bus and provides the required translation of the Z80 signals. The 'asynchronous' bit means that it doesn't have to run at the same speed as the PCW bus but takes signals as they come. This allows the PCW to communicate with other devices running at different speeds.

The 'dual' part of the name means that it can output to both serial and parallel ports, so you only need one major chip to do the work inside an RS232/Centronics interface. You still need various support chips though (up to eight of them), to provide decoding and buffering services before the interface can do its job.

The Centronics parallel port is a specification decided on by the Centronics printer company because, at the time, it was easy to implement. Around 20 of the 36 lines in the specification carry useful signals. The PCW gets by with just 11 of them, though many printers support 20 or more.

These 11 are a strobe signal, which indicate when valid data is on the lines; eight parallel data lines carry the data, a busy line which tells the computer when not to send data to the printer and a logical ground line so that the two devices can agree signal levels.

The PCW doesn't support Paper Out (line 12), though the SCA Centronics port has it connected. A parallel port like this one is only really good for about six feet of cable. Beyond that it becomes increasingly unreliable.

The RS232 port is a serial connection defined by CCITT V24 (yes, the same people who brought you all those strange comms standards) and is a definition laid down for the exchange of signals between data terminal equipment and data circuit terminating equipment (really). RS232 is the American name for it. The full specification calls for 25 lines, all of which have names. Few computers use more than nine of them and the PCW uses just eight. Some computers have been known to use only three, but that isn't really enough.

Since serial ports send only one bit at a time, they have to send extra bits to enable the receiving device to decide what constitutes a byte. Up to 12 bits can be required to send a single eight bit byte. However, the problems involved in setting up serial links are offset by the much greater flexibility they offer and the distances at which they will work. You can have your serial device at the other end of the building with no trouble.

Battery backup

One of the more interesting things to stick on the back of the PCW is a battery pack. This clever box from Isenstein (0244 312986) allows your PCW's memory to survive power cuts for several hours. Unlike most extras, it does have a through connector so you can use it with an interface.

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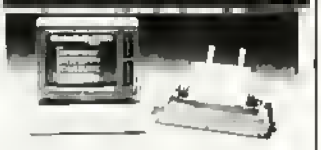

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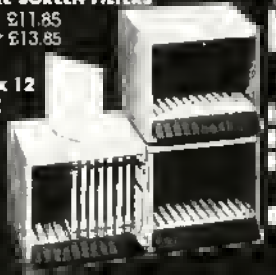

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BIBLICAL LEARNING

Ian Goodhardt makes some character-building modifications to Protext

Have you ever had one of those problems that takes years to sort out with each hopeful-looking solution coming thoughtfully packaged with its own genre of pitfall? This just about sums up the relationship struck up between myself and my PCW during a long-standing, dare-devil project of mine which consisted of coaxing the machine to print out Hebrew phrases under Protext.

The problem was a specific one. Had I wanted to produce complete Hebrew documents, the obvious solution would have been to buy a Hebrew word processor (at least two of them are available in Israel). They work, however, by substituting the Hebrew characters for the lower case English ones; only being able to print out English as a series of capital letters wasn't going to be much use to me as I needed to write predominantly in English while being able to insert the odd verse from the Bible or the occasional Talmudic phrase.

LocoScript proved hopeless. Phone calls and letters to Howard Fisher yielded a stock reply: there wasn't – and it didn't look like there ever would be – sufficient demand to make the creation of a Hebrew LocoScript worthwhile. After many months I took the hint and gave up. I turned my attentions to Protext.

Quite by chance, one day, I discovered that the program contains a little-known command which enables the user to redefine characters on the screen. Could this unassuming **SYMBOL** (or **SYM**) command provide me with the solution to my problem?

Yes, as it turned out. My first attempts were rather wobbly, but I shall never forget the sheer sense of elation I felt when I saw that little wizzened aleph (the first letter in the Hebrew alphabet) making its debut appearance on the screen of my PCW. And all I had done to achieve the breakthrough was to redefine some of Protext's rarely-used symbols.

Onto the screen ...

I decided that I would use the upside question mark as my starting point. I would redefine it to create my aleph. The command which redefines the screen appearance of the new characters is actually quite simple to use. You need to use the SYMBOL command followed by the Ascii code of the character you need to redefine – in this case the upside down question mark. This code is in turn followed by a series of numbers (to be calculated shortly) which describe the shape of the new character.

The Ascii code for the upside down question mark is 74. Following on from what we've just said, then, the command to redefine it begins SYMBOL (or SYM) 174.

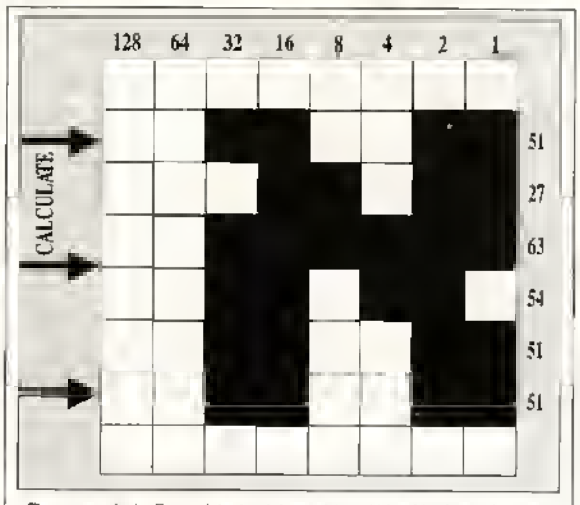
I'm afraid that there aren't any shortcuts for the next bit. To work out the numbers needed to describe the shape of the new character, you will have to draw the character on a grid. Sketch out on a piece of paper a grid which is eight squares wide by eight squares deep. Number each of the vertical columns from left to right as follows: 128, 64, 32, 16, 8, 4, 2, 1. Draw the new character on the grid by filling in the appropriate squares.

Now begins the tricky bit. For each horizontal row of the grid (working from left to right and starting at the top), add up the numbers for each square that has been filled in. For instance, if one line has its second and seventh squares filled in, the value for that line will be 64 + 2 which is 66. In the case of the aleph, the top row gives 0, the second row gives 32 + 16 + 2 + 1 (= 51) and so on. Work your way, row by row, down the grid until you can enter the whole series of eight numbers required to define the aleph. It should look like this;

SYM 174, 0, 51, 27, 63, 54, 51, 51, 0.

Once you've redefined all the characters that you want following the same procedure, save yourself the bother of typing all the numbers in each time by creating an EXEC file to do it for you. If you want them available whenever you use Protext, call it EXFILE and it will happen all by itself whenever you enter Protext.

So all the new characters are happily sitting there deep within the computer's memory. The next problem is how to access them so that you can call the one you want onto the screen. This is done by assigning the characters to various keys as phrases. The command to assign our newly-created letter to key A, for example, is KEY A ↑174↑. (The up-arrow is obtained by pressing **[EXTRA]/[;]**).



The screen aleph. For each horizontal row of the grid (working from left to right and starting at the top) add up the numbers for each shaded square.

Whenever I press **[EXTRA]/[A]**, for example, my Hebrew letter will appear on the screen. This is when you will find out if you've redefined any of those special characters that Protext needs.

Hebrew has one slight additional problem: it is written from right to left. Overcoming this, showed the real genius of the Arnor support staff; simply add character 242 to each letter in your phrase file. 242 is the Protext code for a backspace, so as you type in the Hebrew letters, the cursor stays where it is and the text shoots off to the right, achieving the desired result.

You can type any Hebrew phrase you want onto the screen; getting it to the printer, however, is another matter.

.... and fit to print!

Getting this far only made me realise that I couldn't rest on my laurels just yet. You see, the job was still only half done. When you use Protext to detine new characters, you must do it in two stages: once you've designed the screen appearance of the character, you must then start work designing its appearance in a way that the printer can understand.

As things stand at the moment, for example, the aleph on the screen will still produce the normal upside down question mark at the printer. You now have to alter the printer driver to place the two in accordance. This means further calculations on a new grid. Draw yourself another 8 by 8 grid and sketch in the aleph.

This time number each horizontal row ot the grid (starting with 128 at the top and finishing with 1 at the bottom) and calculate the required series of eight numbers on the basis ot one total tor each vertical column starting on the left ot the grid and moving to the right.

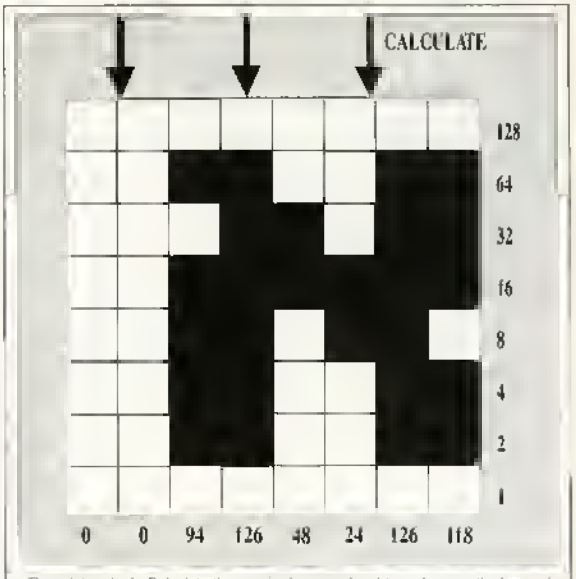
Create a new file which has one line for each character, with each line consisting of the tollowing four elements: the stored command **>RC** (redefine character), the Ascil code of that character, the numbers 27, 75, 8, 0 (to tell the printer the character is eight dots wide) and finally the eight numbers required to detine it.

The redetine character command should look something like this; **>RC 174, 27, 75, 8, 0, 0, 0, 94, 126, 48, 24, 126, 118.**

The numbers 27, 75, 8, 0 tell the printer to expect a series ot numbers defining a normal density graphic image. The eight numbers which follow define the actual shape of that image. To get this tile to the printer, simply tell Protext to PRINT it.

Nothing will appear to happen, but deep in the bowels of your machine the printer driver is being amended to send the newly-defined characters. Be warned though: it you save the new version as PCW.PTR, then it will be there to stay torever as this is the file that Protext always looks to. You can save it under another name, however: HEBREW.PTR, for example. Now when you print out, the symbol ot your design should go to the printer as well as appearing on the screen.

The characters you should concentrate on redetining are the ones you rarely, if ever, use: the Yen sign, for example, the upside down question mark, the paragraph sign, and so on (apologies to Japanese and Spanish readers, by the way.) Some characters are used by Protext for special functions, so redetining these may cause problems. This is something you can only really find out by trial and error, but I can tell you that you should avoid



The printer aleph. Calculate the required series of eight numbers on the basis of one total per vertical grid column moving from left to right.

character 154 which Protext uses as an end-of-file marker.

Shady characters

The bad news is that the PCW printer will only print such characters as draft characters. Even when printing English in NLQ, the Hebrew characters still appear in draft.

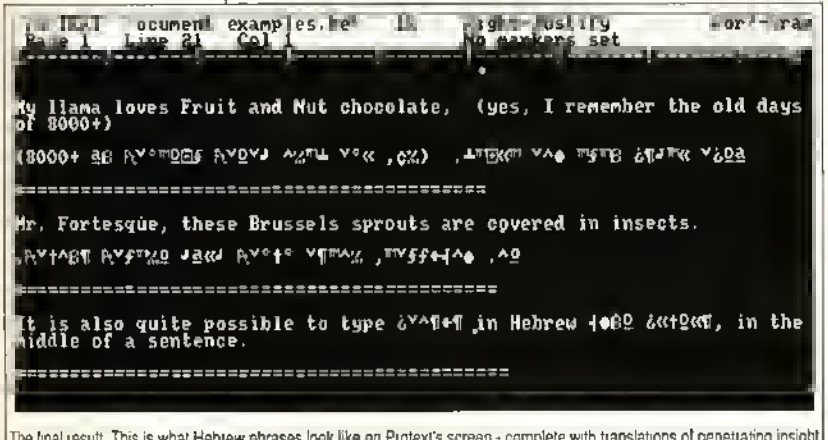
I was satisfied with this for a while, but then got ted up with the printer as a whole, and the draft Hebrew in particular. I decided to go up-market and invested in a Star LC24-10 24-pin printer (needless to say, daisy wheel printers are no use at all tor redefining characters.)

The prinfer iiself is superb; not only does it combine guality and speed, it will also accept definitions for NLQ Hebrew. The only disadvantage is that whereas the PCW printer needs six numbers to define each letter, the Star needs 105. This is because each letter is 35 columns across and each column is defined with three separate numbers. So your letter-definition box is 35 columns across and 24 lines high. Number it 1 – 35 across the top (in practice, the last few columns will be empty so that the letters do not all run together) and from the bottom, number 1, 2, 4, 8, 16, 32, 64, 128 three times.

Apart from that, the principle is exactly the same. The tile which results from defining the 27 Hebrew letters in this way is no less than 8K and consists entirely of numbers and commas apart from the >RC which begins each line.

Prints-ly characters

Star's range of 9- and 24-pin dot matrix printers have long been a favourite buy with PCW users by virtue of the high-resolution print-out they offer. The Star LC24-10 that Ian uses now costs £299 plus VAT. Phone Star on 0494 471111 for further details.



The final result. This is what Hebrew phrases look like on Protext's screen - complete with translations of penetrating insight

Make way, make way

The only major problem which remains after this 2½ year saga is that the 8K file makes the printer driver so big that it interferes with other bits of Protext's workings. Protext only allows a maximum of 5K tor the printer driver, and no-one is quite sure where the overflow goes. All I do know is that it makes it impossible to leave Protext tor any reason – even to use the spell-checker.

The answer is to dump all the code directly into the printer's own buffer using the >OC command – but tor some reason this just won't work. Both Star and Arnor are working on this for me at the moment and all three ot us are confident that betore long we shall be able to pronounce the entire venture an unqualified success.

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KEEP IT CLEAN

Getting the most out of your machine all the time may mean putting a little work in

Your PCW probably spends much of its life tucked away in a corner of your study or office soundlessly smoothing out the creases in your administrative nightmare. Few would dispute, however, that just how effectively a machine – any machine – tackles its allotted tasks can be an indication of its physical condition.

The PCW is a very trustworthy machine; most of the hardware problems that do crop up can usually be put down to the accumulated effects of general wear and tear. Lavish a little care on it from time to time, however, and it will probably make it worth your while.

Gaining headway

The disc drives are perhaps the most worked and potentially fragile moving parts of the machine, and, as such, will tend to go first. There's not a lot you can do to prevent this most expensive and serious of death-knells from sounding. Try to make sure the drives are empty whenever you switch your PCW on or off, and insert and release the discs gently. And here's one more tip: if you smoke, try and keep the cigarette well away from the drive. Nicotine build-up on the heads is a very common problem that will always eventually require corrective surgery.

Amstrad firmly recommend that you don't try and clean your drives with any of the cleaning kits now available from many suppliers. You will almost certainly do more harm than good. Neville Smith from our very own Software Plus here in Bath offers this advice: 'If the drive in question is in need of attention, it should be stripped down and cleaned with a cotton bud. The board should be washed with isopropyl alcohol, the heads cleaned, and when the parts have been lightly oiled, the drive should be reassembled – expertly.' He stresses that this is not a task for the DIY enthusiast. 'The 3" drive is a very small compact device,' he warns. 'It can't tolerate any clumsy handling. If you're not sure what to do, get professional, specialist help.'

All keyed up

The keyboard provides the point of interaction between you and your PCW; it's little wonder, therefore, that this peripheral takes the heaviest pounding. Save it the hassle wherever possible by using keyboard replacement devices – especially if you're a keen games player. Invest in a joystick rather than hammering away relentlessly at the keys.

The keyboard's biggest enemy, though, is errant coffee, tea, lager – and any other liquid refreshments you care to mention. As Neville points out, 'The keyboard isn't a dumb device. Not only does it have its own power supply, it also contains an interface chip and circuit board. Because it also has two membranes inside it, any spilt liquid that finds its way into the keyboard will sit there for a while unless you tip it upside down and leave it to dry.'

On the whole, though, keyboards tend to be very hard-wearing and reliable. The legends will tend to wear off with time, but, again, there is a way round this problem. Buying a plastic transparent keyboard cover will both protect the lettering and prevent anything sinister from finding its way under the keys.

Prints of darkness

Frequently advertised printer maintenance kits are also to be avoided like the plague, counsels Neville. 'They are a complete rip-off. Paper dust is the biggest single problem for printers and by far the best way to get rid of that is to dust round the printer's nooks and crannies with a large soft-bristled brush.'

Ribbon Retresh (£8.95) from Caspell Computer Services (0202 6661555) is an aerosol spray which does exactly what its name suggests. Rather than going out and buying a new printer ribbon when your current one starts to fade, just lift the ribbon cartridge out of the printer and prize off the top. Put the cartridge on a piece of newspaper and spray the ink sparingly over the exposed ribbon inside; don't forget to wind the ribbon on periodically so that you can spray all of it. Leave it for a good 24 hours to dry out thoroughly and pop the cartridge back into the printer. So complete tends to be the nature of PCW damage when it is specifically owner-induced, that many repair houses have a hard job believing that the act was perpetrated accidentally. Wendy and Neville Smith spend a lot of their time nurturing back to health those PCWs which have suffered at the hands of their usually well-meaning users. 'One thing is clear,' says Wendy. 'Nobody should try and repair their machine if they suspect something has gone wrong unless they're sure they know what they're doing.'

What more can we say? Provided you treat your machine with respect, it is certain to reward you with years of faithful – and hopefully faultless – service. ■

Our thanks to Bath's Software Plus, Unit 5, Greenpark Station (0225 448855) for supplying us with the diagnostic board to photograph.

Many PCW repair houses make frequent use of what are known as diagnostics testers. This is a board which fits onto the expansion port at the back of the PCW. This causes a large menu to appear on the screen. By selecting the appropriate option with the cursor keys, you can perform independent tests on either the VDU, the keyboard or the printer.

The diagnostic board is guaranteed to bring the most stubborn of lurking gremlins to justice. It enables you to test the drives and make sure that the display and alignment on your VDU is everything it should be. You can also test each key on the keyboard, verify that all the links and LEDs are operating normally and run through any number of printer tests – in both draft and near letter quality modes if necessary.

Interface the music

Another extremely big no no is plugging an interface onto the expansion port at the back of the monitor while your machine is still switched on. While you will see the occasional blase user doing just this from time to time, it is not to be advised. There is no guarantee that the next time he or she does it, they won't blast the main processor chip inside the machine (the Z80 in the case of the PCW).

Keep the memory alive

Memory failure can be caused by sudden surges of electricity entering the machine. Since memory faults can be very costly to repair, you might prefer to invest in a spike protector plug (£10.25 from various suppliers). These wire up like a normal plug and simply stop the spike from entering the machine. The spike protector also works without being wired up; just plug it into the adjacent socket.

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SOUND AND LIGHT

In the last of our programming series, Geoffrey Childs adds the final trimmings to your finished output

Have you ever thought how exciting it would be to have the colour graphics of an Atari ST or the sound effects of an Amiga? Such effects can produce one of two possible outcomes: they can either enhance the program or be a cause of much irritation to the program's user.

I once used a colour monitor with a default of white text on a blue screen. By far the most comfortable colour scheme for intensive work was – you've guessed it – green on black. As a programmer, you should be thankful for the PCW. I've had many comments on my PCW programs, but nobody has written to me complaining that they didn't like my blue trees against a brown sky with a green sun shining!

This makes output on a PCW a relatively simple matter. It does not mean to say that it is something to be done without care. It is still possible to produce interesting graphics. The use of the full screen resolution of 720 by 256 pixels – an impressive figure for a computer in this price range – is not practical in Basic without the use of machine code or additional programs. It is possible, however, to design neat pages using the low resolution characters that appear in the character set.

The general rules about output are those of common sense. Make the output absolutely clear, and as grammatically correct as possible. **'You will need 1 farmers 30 horse and 0.0000001 kows'**, for example, suggests a certain degree of incompetency on the part of the programmer. Try to design an output page so that is pleasing to the eye, but don't make the design so complex that the user has to endure an irritating delay.

Use of **OUT 248,8** (screen blank) and subsequently **OUT 248,7** can be used to produce an instantaneously complete screen, but use this trick with discretion.

Outputting screens that scroll are generally the result of sloppy programming. Be careful not to give output that could be ambiguous. The user wants a clear result, not a demonstration of your artistic and programming talents. On the whole, screens should be like Victorian children – seen and not heard!

Even if you do intend to do some design work on your output, it is wisest to leave that stage to the frills section. Make sure your program works, is understandable and is fully debugged first.

North-South divide

In the map option of BRITMAP, output is the main consideration. We shall only attempt a crude low resolution positioning. It would be attractive to superimpose our towns on to an outline map of Britain, but such an outline would probably need a light pen to design it, a special file to load it and high resolution graphics to operate it. None of this is impossible on the PCW, but it is beyond the scope of this series.

We shall use the left hand window of the screen to mark each town with a * in the correct position. The number of the town will be written to the right, and we shall just have to hope than no two towns will be so close that they overwrite each other. In low resolution, we can safely use rows 0-29 and columns 0-50.

The North/South (vertical) position is fixed in this way. We think of the bottom of the map as row 29, the top as row 0. The lowest latitude in Britain is just over 49, and the highest under 60. This means we have a range of 11 degrees.

Suppose we want to plot a town which is 51 degrees North; this is two elevenths of the way up the map. Two elevenths of 29 rows is about 5 rows. Thus we want to plot on the 24th row. The first formula in line 4030 does this calculation. The horizontal displacement is calculated in the same way.

When I was testing and debugging this section, I noticed that the map had drawn Edinburgh to the west of Manchester. Back to the drawing board! Before I did that, though, I decided to take a look at a 'real' map. Edinburgh is situated further west than Manchester. I'd be willing to bet that half of you wouldn't have been right on this one. PCWs can certainly teach you a thing or two.

Frills

The most important frill, if one calls it that, is the documentation of your program. Some programmers would say that the documentation should be done before the program, but I prefer to do it afterwards when I know exactly what the program does, and what particular difficulties might occur in use. This can be anything from a few REMs to a full blown 500 page manual.

For BRITMAP, a HELP screen may be the most appropriate way. If so, you can write one for yourself. I've just put a few lines into the program where it could go, and I make no claims that this is the most helpful screen that I have ever written.

```
10000 PRINT c$;FNa$(16,20);
10010 PRINT"Who do you think I am – your blinking
    psychiatrist?"
10020 FOR n=1 TO 10000:NEXT:RETURN
```

Most of the other frills are an individual matter.

Programmers see particular effects in other programs, and those they like are incorporated into their own programs. There are plenty of effects that one could add to BRITMAP, but I felt the most important one was to write a routine that produced a reverse video effect on the right hand side of the screen so that the town listing would appear distinct from the rest of the program. There may be ways to do this with Basic, but a code routine seemed more appropriate and much quicker.

Well, that's it for BRITMAP. If any of you are saying that you could write a better program yourself, that's good news! Don't just say it, write it.

If any readers have queries about anything in this series, I will be happy to try to reply if you write to my home address:

14 Gretton Road, Winchcombe, Gloucestershire.

Character set

```
1 OPTION NOT TAB:FOR n=0 TO 255
2 PRINT USING"###";n;:PRINT" ";
3 IF n<32 THEN PRINT CHR$(27);
4 PRINT CHR$(n)SPACE$(3);
5 IF n MOD 10=9 THEN PRINT
6 NEXT:OPTION TAB
```

This little program will give you all the characters available on a tidy screen. **OPTION NOT TAB** is needed to give you the down arrow character. For beginners, the use of **PRINT USING** and **MOD** may be worth a careful look.

Sounds

You really need machine code to produce any sounds other than the usual beep. Even then, the value is dubious! You may, however, like to experiment with this – rather you than me!

```
10 OUT 248,11:FOR n=1 TO 600:NEXT:OUT 248,12
20 FOR m=1 TO 300:OUT 248,11:OUT 248,12:NEXT
30 FOR m=1 TO 300:OUT 248,11:x=9.1:OUT
    248,12:NEXT
```

The **OUT**s turn the beeper on and off. Line 10 gives the normal note for the beeper, the other two lines use shorter delays and, on my machine, give slightly different notes. (**x=9.1** is just a delaying tactic). A physicist friend tells me the thingies that produce the sound vary from machine to machine. I might be able to write a tune that sounds reasonably like the national anthem, but when you come to run the same program on your machine it could very well sound like a very drunk football crowd trying to sing 'You'll never walk alone'.

Frills

Some readers might like to experiment with this 'frill', the creation of a dark green screen background. This effect is quite easy to reproduce: just light alternate pixels.

```
1 PRINT CHR$(27)+"0":RANDOMIZE
    PEEK(64504!):GOSUB 6000
2 CALL k:a$=" 8 0 0 0 P L U S "
3 FOR n=1 TO 30:r=RND*30:c=RND*70
4 PRINT CHR$(27)"Y"CHR$(32+r)CHR$(32+c)
    a$:NEXT:END6000 h=HIMEM:j=INT(h/256)-
    1:k=j*256:MEMORY k-1
6010 DATA 1,9,0,205,90,252,233,0,201,33,48,89
6020 DATA 62,170,1,0,90,119,35,13,32,
    251,16,249,201
6030 RESTORE 6010:FOR n=k TO k+24:READ a
6040 POKE n,a:NEXT:POKE k+2,j:RETURN
```

Once the subroutine at 6000 has been called, the code is installed, and any subsequent **CALL k** clears the screen to this background.

The first few lines give a demonstration effect, but the coding could easily be adapted - for your menu page, for example.

Map routine

```
4000 GOSUB 5800
```
List of towns on the right.

```
4010 FOR n=1 TO me
4020 IF e(n)=0 THEN 4050
```
Check that the entry exists.

```
4030 u=29-(la(n)-49)/11*29:v=(6-lo(n))/9*50
```
u calculates row position, **v** column position.

```
4040 l$=STR$(n):l=LEN(l$):PRINT FNa$(u,v);"*"RIGHT$(l$,l-1)
```
Print * and number of town without the leading space.

```
4050 NEXT
4060 PRINT FNa$(31,0)"Press any key to return to menu.";
4070 GOSUB 5000:RETURN
```

Reverse video window

```
5820 NEXT:PRINT wl$:CALL inv:RETURN
```
To include our reverse window routine, we only need to add the CALL command to line 5820 (given previously) – providing we have installed the code below. The call to 5900 was made in our initialisation of BRITMAP – I apologise to readers who may have been mystified by this.

```
5900 DATA
    1,83,246,205,90,252,233,0,201,33,48,91,17,0,2,6,32
5910 DATA
    197,6,208,126,47,119,35,16,250,25,193,16,243,201
5920 RESTORE 5900:FOR n=63050! TO 63080!:READ
    a:POKE n,a:NEXT
5930 inv=63050!:RETURN
```
A short machine code routine (up to about 50 bytes) can be conveniently installed at 63050. It only overwrites the CP/M Copyright message. You could, of course, use **HIMEM** to do this conventionally. Most of you should take the coding for granted, but for those who are trying to understand machine code, a disassembly is given below (Z80 mnemonics).

LD BC 63059 (start of operative code for SCRRUN)
CALL 64602 (with the address below the call brings the screen data into memory).
DW 233 (the two byte address of SCRRUN)
RET
LD HL 23344 (screen address of Row 0, Column 64)
LD DE 512 (this is the number of bytes NOT reversed in each row)
LD B 32 (32 rows in loop)
PUSH BC (save it, start of outer loop)
LD B 208 (number of bytes to reverse)
LD A (HL) (get screen byte data, start of inner loop)
CPL (reverse it)
LD (HL) A (put it back)
INC HL (next byte)
DJNZ 250 (loop inner)
ADD HL DE (jump past left window bytes)
POP BC (retrieve row count)
DJNZ 243 (loop outer)
RET

We have taken no account of roller ram, assuming it to be in the original setting. If it has been changed, it won't matter; the reversing will start half way down, go down, then start again at the top.

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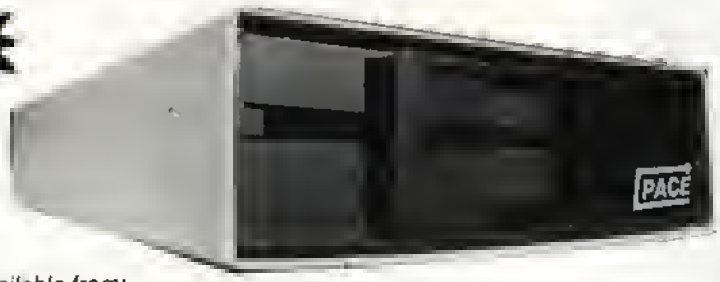

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CONTRACTING UNIVERSE

LANGFORD

A page in the company of author and PCW pundit David Langford

Some people think becoming a professional author involves a terrible initiation rite leaving lifelong scars: the brand of a red-hot keyboard, perhaps, or the outlines of 3"discs tattooed on each buttock. Actually the true and appalling rite of passage comes when, delirious at hearing that Pemmican Publishing Ltd likes your masterwork, you're abruptly brought to earth by a horrible document called the contract.

This intimidating 'Memorandum of Agreement' tends to be printed on legal paper, hardly more flexible than tablets of stone and (maddeningly) too long for an A4 photocopier. With experience, one can suspect a psychological gambit: most literary agents keep standard contracts as word-processor documents because they're infinitely negotiable, while publishers prefer the printed look, to give the impression that they aren't.

The impulse is to sign at once for fear of losing your first big sale. Such action is invariably unwise. There's always the chance of a better deal.

You can pass the buck to your literary agent; if you have none, a book offer from a reputable publisher is excellent leverage when persuading one to take you on. Or... grit your teeth and do your own negotiating. Don't trust my omniscience! A good starting point is the Society of Authors booklet *Publishing Contracts*, £1.50 from them (84 Drayton Gardens, SW10 9SB) or free to members.

Whichever your decision, you should read the contract yourself: though intimidatingly formal at first sight, each clause ought on examination to make some sort of sense. If not, ask your agent or publisher to translate.

The money arrangements tend to be straightforward (though beware of "vanity" publishers who expect *you* to pay *them*). In exchange for various publishing and licensing rights, Pemmican Books undertake to pay you so much (perhaps negotiable) as an advance against royalties on sales, calculated as a percentage (not so negotiable) of the book's cover price. Certain subsidiary rights will also be covered, such as book club sales, translation, newspaper serialization – all potentially yielding loot for division between you and Pemmican (proportions highly negotiable).

Pemmican will undertake to do its sums regularly after publication, usually twice yearly, but will claim inability to write a cheque for royalties due until months after the accounting date. (Sometimes negotiable, to little effect.)

What about traps? Pemmican Publishing are not crooks (opinion negotiable after polling their authors) but want the best possible deal – and protection – for themselves. Here are some points to watch.

1) Will the copyright be in your name or your pseudonym's? Any other arrangement is a Bad Sign, except in special cases of "work for hire": for example, software instruction manuals are normally copyrighted by the software company, hundred-contributor encyclopaedias by the editor or publisher.

2) How long before publication? The Pemmican agreement probably says "within a reasonable time" from the contract or delivery date. "Within eighteen months", say, is preferable. There's nothing more disheartening than indeterminate delays, especially if the book is at all topical.

3) Will you see the final, copy-edited version of your typescript? Often it vanishes into the system and you know nothing until printed proofs arrive – a bad time to find that excessive tinkering has mucked up your book. The contract should specify that you get two sets of proofs for correction, and can keep one for reference.

4) Does your book need illustrations or an index? Are photo copyrights owned by third parties? Pemmican will want you to pay reproduction/illustration fees; you want *them* to pay; you might end up splitting it 50%. Likewise for the services of an indexer if you can't face the job yourself.

5) Is there a *reversion clause* (very important)? This ensures that rights return to you should Pemmican go bust, allow your book to drop out of print for more than (say) a year without scheduling a requested reissue, or remainder it.

6) Is there an *option clause* giving Pemmican first refusal of your next book? This can be a pain: when Gastric Editions ask you urgently to do a lucrative book for them, you may not want a long, delaying ritual of first offering it to Pemmican. If Pemmican insist, there should be a time limit for their decision: six weeks, say. Having rarely written two similar books running, I've sometimes defused such clauses by allowing an option on my next "of a similar nature".

7) What sweeping guarantees do you give by signing this contract? It's usual to declare that the book doesn't infringe copyright (e.g. by being plagiarized outright from John Fowles) and isn't libellous. Picky publishers may request disturbing extras, whereby you warrant that the book doesn't contravene the Official Secrets Act, and even, just recently, that it isn't blasphemous. The last in particular should be resisted at all costs. How can you predict what some maniac in Whitehall or Iran will retrospectively decide shouldn't have been published?

8) What happens when they remainder your book? (When. Not if.) In the contract, Pemmican should promise to give advance notice that they intend to administer this humiliating kick in the groin, and to allow you first option of buying stocks for resale or Christmas presents... at the low price offered to the trade. (My first remaindered hardback suddenly dropped to 50p when I queried the £3 asked.) Pemmican will happily agree to such provisions, and as a rule will then ignore them, knowing there's little you can do. ('The marketing division remaindered it without telling us,' you hear from editors. 'Copies weren't moving fast enough out of the warehouses,' marketeers tell you.)

One last tip: distrust the common clause which goes, "The AUTHOR shall forfeit his/her immortal soul for a period of not less than ONE ETERNITY from the date of this Agreement"....■

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SuperDOS requires a minimum 512K RAM, and will work with the new memory expansion boards. It is programmed in machine code using only documented CP/M techniques. Unfortunately it is NOT designed for use with a hard disk. Publication date is December 11th 1989, so would make a lovely Christmas present!
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LISTINGS

Pyrotechnic perspicacity and terrific treasure trove tumbles

FIREWORX

by Richard Cox

This is one of the programs which was screaming, "Run me!" when it came out of the envelope. It also came with a note to "switch all the lights off and turn the PCW's brightness up full." So we did. It's only by dint of the fact that we got hungry that we're not still watching the display now. It really is very impressive indeed.

The less fun loving of our readers should skip this listing as all it does is to produce a quite spectacular fireworks display on the screen of the PCW. The display can either be controlled from the keyboard using the numeric keypad or you can sit back and watch the built-in demonstration.

To add some zing for the hard core programmers amongst you, there is also the possibility of adding your own data lines. This will enable you to create even bigger and better displays. The data statements within lines 50-130 are the demonstration and can be customised. They consist of an encoded series of keypresses with delays in between. Each keypress is represented by a shift state (n,N, for normal or S,s for shifted) followed by the key number in decimal form. N01 is unshifted [EOL]. A delay time, consisting of a decimal integer must follow each keypress. Missing out this time assumes a gap of 65,536 (about 90 minutes).This confuses the display. Two codes do not fit the pattern; Q which terminates the current CALL FIREWORX! (the exclamation mark is mandatory) and K which stops the display and enters keyboard mode. Lines 150-170 demonstrate these. Neither Q nor K require a delay time.

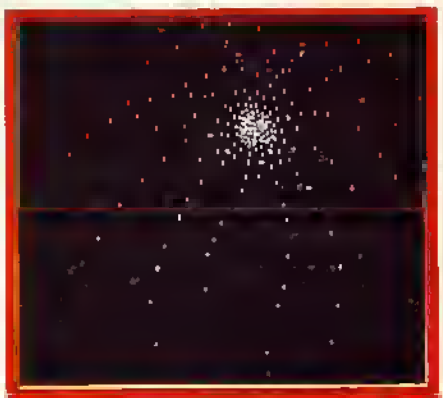
The core of the program lies in lines 200-570 which hold the machine code sub-routine Fireworx!. They also hold the routine to load Fireworx!

To control your own display you will need to use the numeric keypad as follows:

Key Position on screen	Key no:
[RELAY] bottom left	**01**
[ENTER] bottom right	**78**
[2] middle	**07**
[EOL] top left	**13**
[5] top middle	**14**
[WORD/CHAR] top right	**05**

When [SHIFT] is pressed, a large firework is set off. The space bar has a special function: each firework is a collection of moving dots of which there is a finite number. After about eight normal sized fireworks you run out of dots. Pressing the space bar reclaims some of them for recycling. Pressing the space bar and [SHIFT] instantly reclaims all of the dots.

Due to lack of space, we can't go into the program in greater detail. Suffice it to say that it should provide hours of enjoyment both from a programming and a sensory level. Thanks to Richard Cox for the excellent idea, execution and documentation.



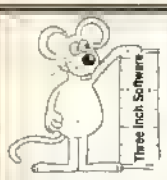
Oooooooo! Ahhhhhh! Wow! and erm.....bang! Light up the sky with Basic fireworx!

```
 10 '= ----- ----- ----- FIREWORX by Richard Cox ----- ---                131B
 20 GOSUB 200: PRINT cls$;"**** Demonstration of FIREWORX program ****"  22B1
 30 PRINT "It's ESSENTIAL to switch OFF lights & turn UP screen brightness"  28D6
 40 PRINT "Then press any key to start display: ";FNcls$                 1D8C
 50 RESTORE 60: CALL fireworx!                                           0E55
 60 DATA n47,50,n07,75,n07,75,n07,75,n07,75,n07,75,n07,150               11C6
 70 DATA s13,30,s05,30,s14,150                                           095C
 80 DATA n01,1,n78,1,n13,1,n05,100,s47,1,s07,5,s07,150                   130A
 90 DATA s01,60,s47,1,s78,60,s47,1,s13,60,s47,1,s05,60,s47,1,s07,5,s13,1,s05,200  1C1C
100 DATA n01,60,n78,60,n01,60,n78,60,n01,60,n78,60,s07,100,s47,1          14BB
110 DATA n13,10,n18,1,n18,1,n18,1,n18,1,n18,1,n18,1,n18,75,n47,1,n47,1,n47,1  1902
120 DATA n47,1,n47,1,n47,1,n47,1,n47,1,s13,1,n47,1,n47,1,n47,1,n47,1,s05,50  198C
130 DATA s47,1,s01,1,s78,1,s07,20,s47,1,s07,1,s13,1,s05,1,s14,200,Q      1737
140 :                                                                    0120
```

This is the demonstration display which can be edited or completely replaced at your whim.

```
150 PRINT "Any key to enter keyboard mode.To finish press STOP: ";FNcls$  2673
160 RESTORE 170: CALL fireworx!                                          0F6C
170 DATA K                                                               0404
180 END                                                                  0373
190 :                                                                    012F
```

This section puts you into keyboard mode and allows you to create your own on-screen displays.



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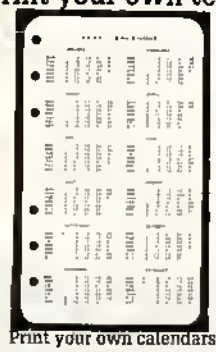

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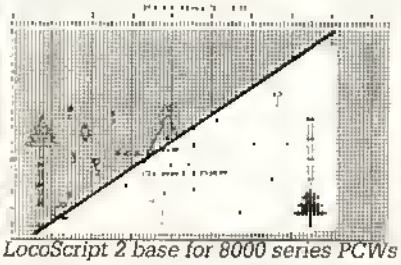

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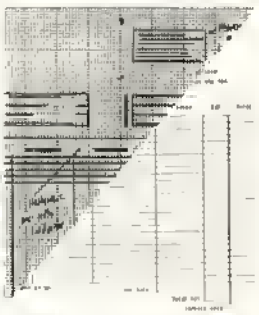

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```
200 '- -----  load machine code and general initialisation --- --          1C77
210 ON ERROR GOTO 270: DEFINT b-z: v1.39=PEEK(&H151)=&H33                 18A4
220 IF UNT(PEEK(6)+PEEK(7)*256)<&HF000 THEN ERROR 7                       165B
230 cls$=CHR$(27)+"E": DEF FNcls$=INPUT$(1)+cls$                          12FF
231 PRINT cls$;"Please wait..."                                           0E75
240 a=57344!: fireworx!=a: MEMORY a-1: RESTORE 300: GOSUB 260             1BF3
250 IF v1.39 THEN RESTORE 570 ELSE RESTORE 560                            16E3
260 READ x$: WHILE x$<>"*"                                                0A19
```

Line 210 contains a version check which looks to see which version of Basic your machine uses. 9512s use v1.39 while the 8000 series use v1.29. Line 250 acts on this by selecting the correct line of code to be loaded at the end.

```
270 '----- ----- ----- ----- ----- error  sub ----- -----  ------          0ED9
280 IF ERR<>200 THEN ON ERROR GOTO 0: ERROR ERR                           1647
290 PRINT "Invalid/missing letter code in DATA statment ": END            2188
300 '---- ----- ----- ----- ----- machine code data ----- -------          1123
310 DATA CD,4F,E2,3E,D8,32,57,E0,21,01,00,22,4D,E2,0E,66,CD,33,E0,CB,E8,CD,2A,E1  1AFE
320 DATA 18,03,CD,DF,E0,CD,44,E2,C5,CD,44,E1,C1,10,F9,CD,4A,E0,79,30,F0,FE,42,20  1B0B
330 DATA E9,0E,65,C5,0E,1B,CD,3D,E0,C1,C3,3D,E0,11,09,00,18,03,11,57,00,2A,01,00  189B
340 DATA 19,E9,CD,42,E0,DA,00,30,06,79,FE,15,28,F4,37,C9,2A,4D,E2,2B,22,4D,E2,7C  1AF2
350 DATA B5,C0,CD,B3,E0,23,CD,5E,E2,06,00,CB,AF,FE,4E,28,18,06,FF,FE,53,28,12,FE  1C30
360 DATA 4B,28,1F,0E,42,FE,51,37,C8,CD,31,E0,3E,C8,C3,64,E2,C5,CD,A4,E0,C1,4B,C5  1B4D
370 DATA CD,A1,E0,ED,53,4D,E2,C1,37,C9,3E,C9,32,57,E0,B7,C9,CD,B3,E0,06,0A,CD,58  1BE4
380 DATA E2,CD,61,E2,FD,75,00,FD,74,01,C9,FD,5E,00,FD,56,01,DD,6E,00,DD,66,01,19  1B21
390 DATA C3,5B,E2,0D,0F,30,38,05,0F,30,B8,01,0F,88,58,4E,0F,88,98,07,0F,58,78,0E  1A01
400 DATA 0F,20,78,00,7F,20,40,FE,2F,CA,2A,E1,21,C3,E0,7E,23,B7,28,08,B9,28,05,23  199C
410 DATA 23,23,18,F3,4E,23,11,4B,E2,CD,23,E1,23,13,CD,23,E1,CB,68,F5,CD,44,E2,48  19DB
420 DATA CB,39,CB,39,F1,20,02,CB,39,7E,B7,20,08,CD,A2,E1,0D,28,07,18,03,CD,B5,E1  1A11
430 DATA 10,EF,C9,CD,20,E2,A1,88,12,C9,11,06,00,4B,CB,68,28,02,0E,FF,CD,44,E2,7E  1A7C
440 DATA B7,28,05,36,00,0D,28,03,19,10,F4,C9,E5,AF,32,4A,E2,CD,BF,E1,D1,CD,81,E1  1ADE
450 DATA 30,0E,CD,61,E1,30,09,EB,3E,FF,32,4A,E2,CD,EA,E1,C9,1A,B7,C8,62,6B,CD,71  1BB7
460 DATA E1,CD,84,E1,CD,84,E1,37,C9,7E,B7,FA,7D,E1,C6,02,77,E0,36,7F,C9,D6,02,77  1BAA
470 DATA E0,36,01,C9,7E,23,37,8F,38,0A,86,77,23,30,11,34,20,0E,18,0A,4F,7E,91,77  18C9
480 DATA 23,30,05,35,20,02,AF,12,23,C9,11,4B,E2,CD,A9,E1,13,CD,20,E2,77,23,36,00  1954
490 DATA 23,1A,77,23,C9,11,06,00,19,C9,7E,B7,CA,B5,E1,23,23,5E,16,00,23,23,23,7E  190D
500 DATA C6,34,4F,06,00,CB,10,CB,21,CB,10,23,E5,EB,29,11,00,B6,19,F3,3E,82,D3,F2  1939
510 DATA 3D,D3,F1,5E,23,56,EB,7D,E6,07,5F,29,7D,E6,F0,B3,6F,59,79,E6,F8,4F,09,7B  1BD7
520 DATA E6,07,47,3E,C0,28,03,0F,10,FD,47,3A,4A,E2,B7,78,20,05,2F,A6,77,18,02,B6  18E7
530 DATA 77,3E,86,D3,F2,3D,D3,F1,FB,E1,C9,00,89,CB,C7,2D,E5,21,1B,E2,7E,23,88,CB  1BCE
540 DATA 0E,23,86,CB,0E,CB,0E,CB,0E,30,0C,23,86,CB,06,CB,06,CB,06,23,86,CB,06,32  1B04
550 DATA 1B,E2,E1,C9,21,67,E2,06,B4,C9,00,00,00,00,00,DD,21,*                     12DF
560 DATA 17,74,FD,21,AA,73,C9,C3,CD,59,C3,97,45,C3,27,47,C3,E7,62,C3,B3,0E,*      1949
570 DATA A4,74,FD,21,37,74,C9,C3,78,5A,C3,DE,45,C3,57,47,C3,92,63,C3,B2,0E,*      1899
```

The dreaded DATA. As Richard Cox says 'Just think beautiful moving pictures.

How to type in a listing

First you will need to get Mallard Basic up and running. Insert a copy of your CP/M disc. At the A> prompt type BASIC and press [ENTER].

You will see that BASIC is loaded when the A> disappears and is replaced by ok. You're now ready to type in the listings. Do this as they appear on the page, line by line.

Don't bother to type the four figure hexidecimal numbers which appear at the end of each line as these relate to the Checksum program published in the November 1988 issue.

Typing errors are common, so check each line carefully. You can use various short cuts; for example, typing ? into a line is Mallard Basic's shorthand for PRINT. You can also press the left arrow on the numeric keyboard to automatically rewrite the last line you typed in. If you find a mistake before pressing [RETURN], simply cursor back to the error and make the required correction using the [DEL] keys. If you realise that you've made a mistake after pressing [RETURN], all is not lost; you will need to type EDIT and the number of the offending line. You can then edit any errors in the same way as above. Once you're sure that all is just as it should be, press [RETURN]. The corrected line will then be accepted into the program.

When you've typed in all the lines and made any corrections, you will probably want to give your eyes a rest from the screen. You will also need to check over the listing yet again. To get a copy of your work sent to the printer, you will need to type LLIST. If you can still stand to look at the green on black, you should type LIST to print the entire program on the screen.

The next thing to do is save all your hard work. You can save the program to disc by typing SAVE"FILENAME (where FILENAME can be any name you like up to eight letters long). If you get a directory (type DIR) you will see that Basic programs are given the .BAS suffix. You don't need to bother typing that in because Basic assumes this and will do it for you.

Finally, the acid test itself; type RUN and see what happens. The chances are that the dreaded warning 'Syntax error in line XXXX', or some other error message, will appear. The line number to which it refers might not be the exact place in which the error occured but it will narrow down the search. Correct any errors using the EDIT command and try again. It is very rare indeed for any program over five lines to run first time. If all else fails try the manual.

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TREASURE HUNT

by Steve Mayer (and Clare and Nicole)

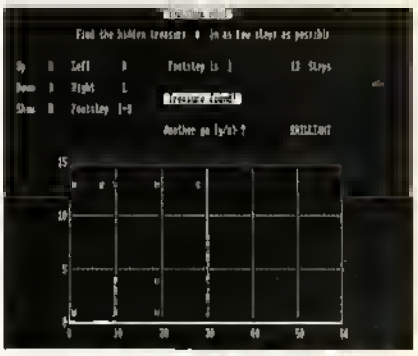
At heart this is a simple game. What you have to do is search around a grid for a small nugget of treasure. You use [O] for up, [A] for down, [K] to move left and [L] to move right. Steve tells us that he chose this key combination because they are easier to keep four fingers on while playing.

You are given clues to tell you whether you are W(arm), C(old) or H(ot). The idea is to find the booty in the fewest possible steps.

These steps can be increased or decreased in distance from 1 to 9 grid units. You achieve this by pressing the number keys at the top of the keyboard. It's not as easy as it appears as the warmth is decided by circles of various radii around the treasure. Since the grid works in rectangles, this complicates matters somewhat. Once you have succeded in finding the loot, you are given a rating and are asked if you would like to try again.

Steve Mayer tells us that this game was written strictly with his children in mind, but then again Tetris was looked upon as too simple in its early days. Frankly, Treasure Hunt can become complusive. Because we do require certain criteria to be filled before publishing listings (ie, we don't like more than 60 lines with preferably less than 80 characters per line) there are a number of improvements which could be made. For example, the treasure graphic could be improved, the grid could be expanded and there could be more than one piece of treasure. Still it is a fine game and it certainly kept the 8000 Plus office amused.

By the way, there is also a cheat mode which will show the treasure. But beware, it will also inform you that you cheated on move so and so. Good luck me hearties!



The search is on. Remember this game is for the kids...so give them a go at some point.

```
10 cl$=CHR$(27)+"E"+CHR$(27)+"H" : e$=CHR$(27): ron$=e$+"p": roff$=e$+"q"          16FC
20 coff$=e$+"f": con$=e$+"e": PRINT cl$+e$+"0"+coff$: j=1                          14D9
30 DEF FNat$(r,c)=e$+"Y"+CHR$(32+r)+CHR$(32+c)                                     0F79
40 REM Draw grid                                                                   0884
50 s2$=CHR$(149)+SPACE$(9): s3$=CHR$(149)+STRING$(9,45)                            14A8
60 line1$="15"+CHR$(150)+STRING$(59,154)+CHR$(156)                                 1254
70 line2$=s2$+s2$+s2$+s2$+s2$+s2$+s2$+CHR$(149)                                    0F25
80 line3$=s3$+s3$+s3$+s3$+s3$+s3$+s3$+CHR$(149)                                    0F43
90 line4$="0"+CHR$(147)+STRING$(59,154)+CHR$(153)                                  1219
100 PRINT FNat$(14,12);line1$                                                      0BFD
```

The clear screen routine, user defined function FNat$ and grid are set up here.

```
110 FOR n=1 TO 2: FOR m=1 TO 4: PRINT FNat$(9+5*n+m,14);line2$: NEXT               1D19
120 PRINT FNat$(14+5*n,12);DEC$(15-5*n,"##");line3$: NEXT                          16D7
130 FOR m=1 TO 4: PRINT FNat$(9+5*n+m,14);line2$: NEXT                             1804
140 PRINT FNat$(29,13);line4$                                                      0C32
150 FOR k=0 TO 6: PRINT FNat$(30,10*k+13);10*k: NEXT                               14C3
160 PRINT FNat$(0,35);ron$;" TREASURE HUNT ";roff$                                 168B
170 PRINT FNat$(2,16);"Find the hidden treasure  ";CHR$(188);                      1C46
180 PRINT "  in as few steps as possible"                                          1428
190 PRINT FNat$(5,3);"Up     Q    Left       K"                                    0F30
200 PRINT FNat$(7,3);"Down   A    Right      L"                                    0FA7
210 PRINT FNat$(9,3);"Show   X    Footstep  1-9";FNat$(5,36);"Footstep is  1"      207D
```

The information about movement and size of step is displayed on screen.

```
220 REM Play                                                                       057C
230 RANDOMIZE(PEEK(64504!)): x=INT(14*RND)+15: y=INT(59*RND)+15                    1A9D
240 u=INT(14*RND)+15: v=INT(59*RND)+15: IF u=x AND v=y THEN 240                    1A88
250 p=v-14: q=29-u: GOTO 300                                                       0BF7
260 m$=INKEY$: IF m$="" THEN 260 ELSE IF m$="x" THEN GOSUB 410                     17F6
270 IF VAL(m$)<>0 THEN j=VAL(m$): PRINT FNat$(5,48);j                              1713
280 IF m$="l" THEN a=j ELSE IF m$="k" THEN a=-j ELSE a=0                           17DA
290 IF m$="q" THEN b=j ELSE IF m$="a" THEN b=-j ELSE b=0                           17E3
300 IF a<>0 OR b<>0 THEN st=st+1                                                   0E1C
310 PRINT FNat$(5,61);DEC$(st,"####");                                             0DC3
320 IF st=1 THEN PRINT "  Step " ELSE PRINT "  Steps"                             1743
330 p=p+a: q=q+b: p=MIN(p,59): p=MAX(p,1): q=MIN(q,14): q=MAX(q,1)                 1D49
340 d=SQR((x-29+q)^2+(y-14-p)^2)                                                   0CB5
350 IF d<=5 THEN t$="hot" ELSE IF d<=20 THEN t$="warm" ELSE t$="cold"              1EA9
360 PRINT FNat$(rr,cc);LEFT$(tt$,1)                                               0EBF
370 IF 29-q=x AND 14+p=y THEN PRINT CHR$(7);FNat$(x,y);CHR$(188): GOTO 480         2147
380 PRINT FNat$(9,40); ron$;" ";t$;: IF t$<>"h" THEN PRINT " ";                    16FC
390 PRINT roff$;" ": r=29-q: c=14+p: PRINT FNat$(r,c); ron$;LEFT$(t$,1);roff$      21B3
```

Lines 230 and 240 place the treasure and give a starting point, as long as it's not on top of the loot!

```
400 rr=r: cc=c: tt$=t$: GOTO 260                                              0D16
410 REM Cheat                                                                 0618
420 PRINT FNat$(x,y);CHR$(188);FNat$(8,62);ron$;" Cheated at Step";roff$;     1F20
430 IF o=0 THEN PRINT ron$;st;roff$: o=50                                     1526
440 FOR delay=1 TO 1000: NEXT                                                 0BED
450 IF x=24 OR x=19 THEN h$=CHR$(45) ELSE h$=" "                              13BA
460 IF (y MOD 10)=4 THEN h$=CHR$(149)                                         0CD6
470 PRINT FNat$(x,y);h$: RETURN                                               1038
480 REM Found it                                                              08B4
490 PRINT FNat$(8,35);ron$; " Treasure found! ";roff$;FNat$(9,35);SPC(11)     1EAE
500 IF st<=20 THEN re$="BRILLIANT" ELSE IF st<=40 THEN re$="GOOD"             1EA1
510 IF st>40 THEN IF st<=60 THEN re$="FAIR" ELSE  re$="AWFUL"                 1C3F
520 PRINT FNat$(11,63);re$;FNat$(11,35);"Another go (y/n) ?"                  18A9
530 n$=INKEY$: IF n$<>"y" AND n$<>"n" THEN 530 ELSE IF n$="y" THEN RUN        1B19
540 PRINT cl$+con$+e$+"1": END                                                0C17
```

Where the cheats gather. Lines 440-470 keep the treasure on screen for a count of 1000. Damage to the grid is repaired with the variable h$.

Let's list again

All of the listings you see within these pages have been sent in by readers. We are always on the lookout for new and interesting applications for Mallard Basic (or DR LOGO) listings.

Over the last year or so, we have built up quite a backlog of material which we will be going through as soon as the 8000 Plus team is back up to full strength. So, if you have sent in any listings (with stamped addressed envelopes) which we have not returned, do not fear. We're also pleased to receive reminders.

If you have any new programs you would like to see published, please try to keep to the following guidelines; the program should be no more than 60 lines long. No line should exceed 80 characters, including spaces.

Each listing should be saved in Ascii form and be accompanied by full documentation. If you would like your disc to be returned, you should also include sufficient postage.

Although these pages deal with Mallard Basic which comes with your system discs, we are also pleased to see short programs written in other languages.

Finally, as per usual, the address you need to send your work to is: Listings Plus, 8000 Plus, 4 Queen Street, Bath, BA1 1EJ.

DATA AND READ

THE LEARNING CURVE

Do you think that starting to learn Basic would be too much like hard manual labour? Does a program look like ancient Egyptian graffiti? Then try sliding down the Learning Curve. This section of the Listings pages is devoted to those of our readers who think they might like to begin exploring Basic. The aim of the Learning Curve is to give a brief introduction to some Basic commands and functions. This is done in such a way as to make the learning process as simple as possible.

This month we will be taking our first look at READ and DATA. These two functions always appear together in a program. If you give the Fireworx listing a brief glance, you will see what wonders can be achieved using these two. Don't worry, DATA lines (or statements) can hold plenty of other information besides reams of numbers. Have a look at the following short program:

```
10 FOR count%=1 TO 5
20 READ name$
30 PRINT name$
40 NEXT count%
50 DATA simon, jon, muriel, toby, sam
```

We will now go through the program line by line:

10: This sets up the loop counter. Because there are five names in line 50 the loop needs to be set to five. Try setting the counter to six and you see the message 'data exhausted in line 50'.

20: This line takes the information stored in line 50 and READs it into the program. DATA is read in a specific way. An invisible program pointer is aimed at the first piece of information in a statement, this is read and the pointer then moves on to the next and so on until all of the data has been read.

30/**40**: PRINT to screen and end the loop.

50: The DATA itself. Each individual piece of information must be separated from its neighbour with a comma.

All the program does is read each piece of information from the data statement in order. It then prints it to screen. Very straightforward. But once it has read through the five names the program ends. As long as you alter the loop counter it is quite possible to add as many lines of DATA as you like. Try making these changes to the program:

```
10 FOR count%=1 to 10
60 DATA BILL,JIM,BERT,JENNY,LOUISE
```

You should be able to see that the program now reads all ten names.

DATA is a tidy way of keeping information which a program will use regularly. Because READ only looks at lines with the word DATA at the beginning, DATA statements can appear anywhere in a program. You will normally find them grouped together towards the end.

So far we have only been reading one piece of information from a DATA statement at a time. DATA and READ are far more versatile than that. Try this example:

```
10 READ number%, word$
20 PRINT "The number is "number%
30 PRINT "The word is "word$
30 DATA 100, WORD
```

Now try experimenting with DATA and READ by building up a few statements and reading them. Next month we will continue with our examination of these two Basic functions and introduce a third one called **RESTORE**.

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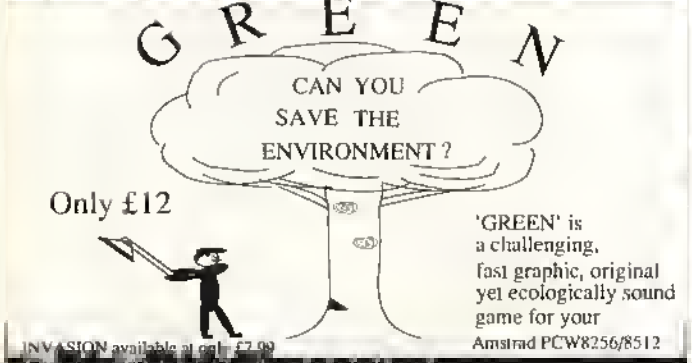

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TIP OFFS

Tips

Questions

Information at your fingertips. Or tips at your information fingers or fingers at.....

This month we bring you tips on Micro Design 2, PCW transportation, space cadet cheat modes and a host of other useful information. Last month's Make a Date competition is going to be held over for another month to give more people a chance. The winners of this month's Tip Offs' cash prizes are: David J Miller for his box character key definitions and David Solomon for his Micro Design ii hints. Send your questions or tips to: Tip Offs, 8000 Plus, 4 Queen St, Bath, BA1 1EJ.

Boxing clever

I find the use of box characters to outline menus or displays adds a professional touch to the programs I write. However they are tedious to produce under Mallard Basic as you have to define string variables for all the corners and intersections. Using CP/M ii's virtually impossible because there are no key combinations to obtain the required characters.

The solution I have found is to use SETKEYS.COM. There are two problems with this. The first is to find eleven convenient keys or key combinations to represent the four corners, five intersections and the horizontal and vertical lines. I chose a combination of the [ALT] key and characters from the numeric keypad to the right of the PCW keyboard. The next problem is that the ASCII values of the box characters are used as 'expansion tokens' (#80-#9F). Only four of them are unassigned (#9B-#9E). This means that you have to choose seven already assigned expansion tokens to be re-assigned to box characters. I solved these two problems and came up with the following file which can be written using any word processor which can produce ASCII files:

```
E #82 "^'150'" Top Left
20 A "^'#82'" [ALT]-7
E #84 "^'158'" Top Centre
12 A "^'#84'" [ALT]-8
E #86 "^'156'" Top Right
04 A "^'#86'" [ALT]-9
E #88 "^'151'" Middle-Left
13 A "^'#88'" [ALT]-4
E #97 "^'159'" Middle-Centre
14 A "^'#97'" [ALT]-5
E #99 "^'157'" Middle-Right
05 A "^'#99'" [ALT]-6
E #9A "^'147'" Bottom-Left
15 A "^'#9A'" [ALT]-1
E #9B "^'155'" Bottom-Centre
07 A "^'#9B'" [ALT]-2
E #9C "^'153'" Bottom-Right
06 A "^'#9C'" [ALT]-3
E #9D "^'154'" Horizontal
11 A "^'#9D'" [ALT]-[COPY]
E #9E "^'149'" Vertical
79 A "^'#9E'" [ALT]-[.]
```

Save this file as **BOX.KEY**. You can now use these characters with ease by typing **SETKEYS BOX.KEY** in CP/M before you start programming.

David J Miller
Berks

Et al

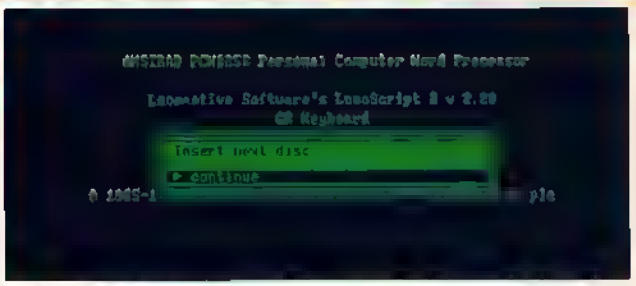
An empty ET.AL file, which lets LocoScript2 auto-load from more than one start-of-day disc only takes up 1k of space but even this might be a nuisance for some.

Space obsessives may find it useful to have an ET.AL file which takes up no space at all! You can create this from the disc management screen in the following manner:

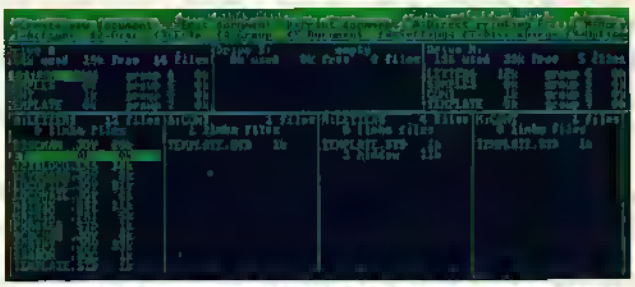
1) Use f4 to rename a group as ET. This can be on the M: drive.
2) With the cursor anywhere in that group use f3 and select 'Erase file'. Type in ET.GRP as the file name. Press [ENTER]. You will see that ET disappears as a group name.
3) Use f8 and select 'Show Limbo Files'. Put the cursor over the limbo file ET.GRP.
4) Use f3 and select 'Recover from Limbo'. Give the new filename as ET.AL. Press [ENTER] and lo and behold you have an ET.AL file of 0K.
5) Use f3 to copy this to your start of day disc.

You will find that LocoScrip2's auto-load procedure recognises it as a prompt to insert a further start of day disc.

R Howard
London



When is a file not a file? When it's OK. But this ET.AL file will enable you to boot LocoScript 2 using more than one start-of-day disc.



LocoScript 2 waits for you to insert the next disc. This might contain anything from a system dictionary to LocoFile. This system can also be used as access protection.

Re-group captain!

Using LocoScript 2, after naming groups with what I think are appropriate titles I feel I'd like to change my mind and return to the original 'group 0' etc.

LocoScript 2 won't allow you to use lower case characters when renaming a group, so how do you do it? Here's how:

In the disc manager, highlight any file in the group you want to rename. Press f3 and choose the ' Erase File' option. In the panel which appears in the middle of the screen will be the filename. Change this to the group name and for the suffix (the three letter filetype which follows the fullstop) type GRP. Then press [ENTER] and the group name will be erased to be replaced by the original group number in lower case.

The old name will drop into Limbo. It can be brought back to life using the f3 key should you have a change of heart.

A bit of a lightweight tip perhaps but one which is satisfying to execute.

H Ainscough
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Indeed a simple tip but why not? Knowing these seemingly trivial pieces of information about your software and machine may well lead to greater confidence and then who knows what?

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What users say about Money Manager - 2

I have the worst brain for money matters around but in the years I have had your Manager I have never yet had VAT or cash flow upsets, it's great!.
(J.D.W. - Berks)

I cannot let this opportunity pass without repeating my satisfaction with Money Manager. I am using it for the book-keeping of several small businesses. Before I retired recently after 40 years in banking, 24 of which were as branch manager, I would have been delighted if my small (and some not so small) business customers had presented me with figures and statistics of their businesses as produced by Money Manager. It really is a program which, being easy to use, could save many businesses from the chaos and disaster which can, and so often does, result from poor or non-existent book-keeping.
(R.A.L. - Cheshire)

Of the improvements, I find the calculator and macros the most used, and greatly appreciate the increased number of Accounts and the facility for defining Marks, not to mention the pie chart and improved bar chart. What further improvements could one possibly expect?
(R.R. - Southampton)

Thank you for the prompt delivery of Money Manager, and what a delight to use, it is not very often that computer software adverts fully live up to the written word but in this case having used it for only a few hours I feel absolutely confident about the use of it.
(J.S.K. - Essex)

The program is perfect, just what I needed. If it were edible I would have a second portion.
(N.T. - Wilts)

I have been using Money Manager since then for my personal accounts and am writing to let you know that, as an accountant working in industry, I am very pleased with the program. I regard the program as having been well designed and user friendly with lots of useful options. I have had no hesitation in recommending the program to a friend of mine who is self-employed and needs to prepare accounts for his own business.
(A.D.S.G. - Northants)

Several of my clients are struggling with Sage and the like. I am now doing my best to wean them onto your Money Manager, which is far more suitable for them.
(A.R.L. - Kent)

I would like to take this opportunity of congratulating you on an excellent program. I am treasurer of a local cycling club and the help that the program gives me in that job is tremendous, and impresses the auditors too! It is also very helpful to be able to keep track of my personal accounts, and know to the penny how much I owe to the various credit card companies. Keep up the good work!
(J.F.N. - Wilts)

We would like to thank you for providing such a marvellous and easy to use program at such a reasonable price. No longer do we guess how much is where and no decisions are made without first consulting Money Manager.
(K.D. - Milton Keynes)

I have bought the new Money Manager - and I think it is magnificent. The manual is so rare in the mass market: a well printed, clear, concise, friendly instruction booklet written for us amateurs who really aren't computer experts, and don't particularly want to be. I really do congratulate whoever wrote this instruction book. Well done indeed!
(C.P.G. - Hove)

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- Statements showing each entry in detail with running balance
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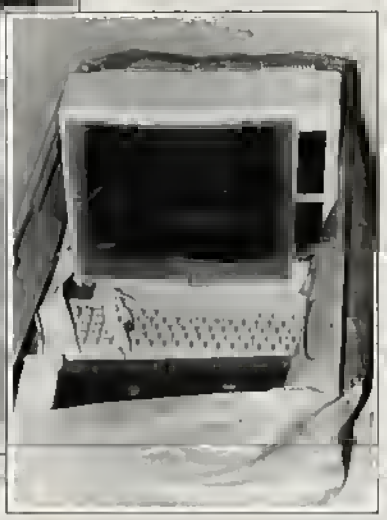
Pack up your troubles

When transporting my PCW, the yoyoing to and from the car boot has driven me mad. Not really requiring specialised PCW luggage I have taken to using one of the large shopping trolley bags now widely available in supermarkets.

Line the bag with a bath towel. The monitor fits snugly in one end, the keyboard rests on the monitor pedestal and the printer goes at the other end. With a towel on top there is room for paper and disc boxes. Cover it all with a bin liner and hey presto! (or Tesco) only one trip at either end.

Ian Dand
North Yorkshire.



The PCW travels. Complete with manuals and discs and at cut price too.

Why pay out your Christmas Club money for expensive luggage ?

Tie a yellow ribbon

If you rarely use SuperScript and Double Width you will notice that your 8000 series printer ribbons have a strip 2/10ths of an inch wide where the printer head has struck the ribbon. There is another strip of 3/10ths of an inch wide unused. You can double the life of the ribbon by removing it from the case and reversing it.

1) Gently ease off the cover in stages with a small screwdriver. Danger areas are the two lugs on the protruding arms.
2) Note how the ribbon is threaded at both ends of the box. The jumble in the middle can be ignored.
3) Remove the ribbon. The ratchet on the spring pushes back.
4) Take about 12 inches of the ribbon and rethread it through the box. The aim is to finish up with the ribbon which will eventually show between the protruding arms with its shiny side towards the printer head, dull side towards the paper.
5) Snap back the cover.
6) Hold the box in a vertical position with the winding ratchet at the top and loose the ribbon on the floor. Using the ratchet rewind the ribbon into the box taking care not to wind in any snags. This should take about 5 minutes!

J L Bartlett
Wickham.

Beam me up

Re Steve Chapman's query about Starglider in the October issue, here are some tips.

When the game is over and you are asked to enter your name in the high-score table, enter it as Boris the Bean (case is important). Once this is done and you have started a new game every time you press [STOP] you will presented with the cheat mode menu. Pressing [A] will still abort the game but pressing numbers between 1 and 5 will have the following effects:

1 will take you to the next level.
2 will give you unlimited fuel, energy and lasers.
3 will restore you back to limited fuel etc.
4 will give you two missiles
5 lets you choose a mission from a sub-menu of six.

Press C after making your choice to continue the game.

John Eggeling
Lancs

It's not cheating; it's saving the galaxy

Now is the winter...

I should be most grateful if you or any of your readers could help us with a problem which we have encountered using Caxton's Cardbox package which we run on an 8512. As you will be aware Cardbox is no longer supported by Caxton.

The problem is that we have reached the capacity of the duel density disc which contains our customer database. It is not possible for us to delete any files from the disc – there being only one customer file. Although we are able to delete a number of redundant records this does not seem to make equivalent space available for new ones. We can of course update redundant records but this is long winded and only a stop gap.

The documentation implies that is is necessary to reorganise the file by dumping it and then recreating it. But this is frustrated by the lack of space on the disc. Presumably there is a solution to the problem, but with the absence of Caxton we must look elsewhere for help.

R Palmer
Kent Repertory Company Ltd.

8000 PLUS

The problem with databases gowing larger than disc capacity will crop up from time to time. One way round this problem is to create a number of customer files on separate discs. Customers with names from A-C use one file and so on.

Your present file should then be used as an archived back-up. First you will need to write the information from this file into their respective new homes. This should not take you too long using Cardbox's WRite command, the Internal format and selected records. There is no great problem with using different discs for a database, you must of course back each one up. The other alternative might be to get yourself a hard disc.

As you say, Caxton no longer support the product so if there are any readers who use Cardbox and have a better solution please get in contact with 8000 Plus at the address given at the top of Tip Offs.

PRNs of darkness

I have been reading your magazine since I purchased my PCW9512 last December. I find that many books are either aimed at the expert or the pure beginner with nothing in between. Can you therefore help me out with a problem I have not been able to solve for ten months.

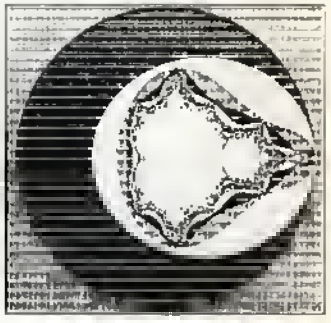
I have a Public Domain Mandelbrot routine, which at least saved me the bother of having to type in the 8000 Plus listing. But when a plot is completed, it is saved by the program as a PRN file. I cannot find out how to run this file! TYPE does not do it and in Basic, RUN brings up the message 'Direct command found'. Neither of these tell me how to recapture my lost file. Can you please help?

James J Haxted
South Glam

8000 PLUS

Tricky devil the PRN file. What seems to have happened is that your Mandelbrot plots have been saved as printer listings, hence the suffix PRN.

The image which you created has been saved in a form which can be turned into hard copy. Not having seen the particular piece of software to which you allude we can't really go much further than this. It most certainly won't run under Basic as it is not a piece of program code. TYPE will only print the numeric codes which are communicated to the printer in order to produce the picture. Without seeing the software we can only assume that there is a print out option.



Is this the way you're going to feel on boxing day? No, it's a plot by Mandlebrot.

Design council (part 1)

Here are a few tips to make Micro Design 2 a bit easier to use:
1) The manual tells you to 'cycle' through the disc drives and User groups using [ALT]+d and [ALT]+u. The simpler way is to press [ALT]+ a,b or c for the appropriate drive. Also [ALT]+ the user group number.
2) MD2 directories will only hold 50 entries at one time. If you want to view, say, 200 CUT files on a B disc you have to scroll through 50 at a time. The trick here is to load the files, 50 at a time, into different user groups. This is easily done with NSWP for example.
3) MD2 will not accept Stop Press pages at full-size in high resolution (254k) mode. It insists on reducing them to half size. To get round this; go into New, select A4 low resolution (64k) mode and the Stop Press page will load at full size. Save with an MDA file-type. Re-load the new file into a high resolution page at twice full size to fill the page.
4) Keep all your page dummy files (also known as page templates or style sheets) in group 1. Save all current work files in group 0. This way it is more difficult to rub out essential files!
5) When adjusting the supplied typefaces for size, calculate the width of characters in pixels, at their original point size. Increase the height of the character to the required point size, note the height in pixels and then multiply by the ratio to give the required width in pixels. This keeps the proportions of the characters correct. The ratio differs from font to font.
6) When making an A4 page which is to be reduced to A5 on a photocopier, do not forget to increase the size of typefaces and graphics by 41% to give the correct size when reduced. A4 to A5 is a 71% reduction. For example, use 16 point characters in A4 to give 12 point in A5.
8) To centre a page of print lengthways on continuous A4; wind on the paper by hand until the perforations are level with the horizontal guide lines which are cut into the printer head. Press [PTR] to call up the printer command line and execute three line feeds.
9) As a matter of interest on MD2 a vertical pixel measures 0.009 inches while a horizontal pixel measures 0.006 inches.

David Solomon
Southampton.

Put these tips to the test, see the back page

Design council (part 2)

Some tips for users of the excellent Micro Design 2.
1) Imported Stop Press fonts can be made to look less ragged by writing them in Outline mode and then flooding the hollow letters with black ink. It takes time but the results are worthwhile.
2) Don't forget when typesetting text you don't have to go into Editor mode to write it. For short pieces of work it's just as easy to go into the temporary text editor by pressing T followed by [f1] and then writing the required text. Style and emphasis codes can be added in the usual way. This saves continually jumping between Editor and Layout.

Rev M Komor
South Glamorgan

Maccie's back in town

I purchased a PCW 8256 when they first came out in 1985. Since then it has given me excellent service and has proved a very good value buy. In 1988 I bought a Macintosh SE in order to carry out detailed CAD (computer aided design) work as well as other graphics.

It would be most convenient to be able to read our PCW records on the Mac. I am told that I must first make Ascii files from the PCW data. This is relatively simple with regard to LocoScript files. However our old accounts were done using SuperCalc2 which of course operates under CP/M. My old (1985) manuals give no guidance on converting SuperCalc files to Ascii form.

Most of the data, from both LocoScript and SuperCalc is on B: drive discs as I upgraded my 8256. One major problem appears to be that there is no RS232 interface on the back of the machine. Could you please help?

J S Peacock
Cambridge

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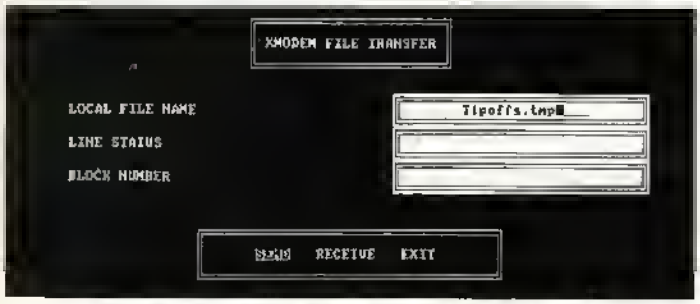
There seem to be a number of questions here; SuperCalc will save files in Ascii form using the /O(utput),D(isplay) function from the command line. You can also the SDI or Super Data Interchange facility which comes with SuperCalc2. This will produce a straight forward comma delimited file of the data you require. To be quite frank, to fully describe both comma delimited files and their uses would take an entire feature. Suffice it to say that what you end up with is raw data without the frills. This can be exported to Macintosh.

The second part of your letter deals with the fact that you have no interface attached to your PCW. You have to buy interfaces. They are the optional extras of the PCW world. What you do have is an edge connector (or board edge or even expansion port). In layperson's terms this is the long slot on the back left of the PCW just below your printer port. The slice of plastic which you can see poking out is actually an extention of the mother board itself. You will need to get an RS232 interface which fits onto this board. There is an indepth review of the interfaces available for the PCW on pages 50, 51 and 52 of this issue. The Mac comes with ports readily built in.

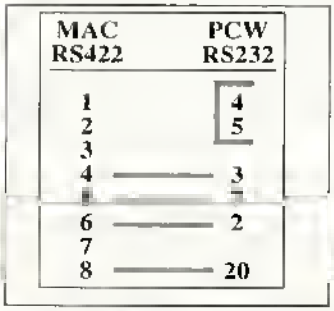
We will be dealing with the matter of file transfer in far greater depth in a later issue as this seems to be a popular question at the moment. Briefly, once you have your interface you will also need to lay hands on a fairly simple cable which will connect your RS232 interface to the Mac's RS422 port. At 8000 Plus we use a piece of comms (communications) software called PMS Dialup and the comms module from Microsoft Works on the Mac. We then send at a 9600 baud.

Once the file has been sent, it is up to you which word processing software you use on the Macintosh. We use a combination of Makewrite, Macwrite and Quark Express to turn out these pages. The major hurdle however is actually getting the data from one machine to the other and it really isn't as difficult as it might at first appear.

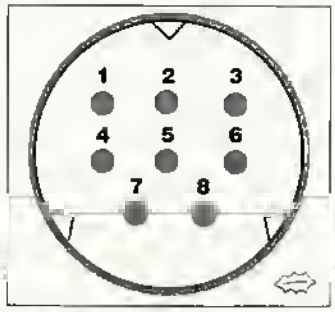
The opening menu of our very own version of PMS' Dialup.



Ready to send these pages which were written in Protext and then saved in Ascii form.



For those of you brave enough to try it, this is the cable which will join your PCW to a Macintosh.



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Access VISA

Liberate Liberace

N Perrin
Fordingbridge

I play the electronic keyboard and although I find many of the pre-programmed rythmns impressive, I find a greater need for just a simple 'ticking' metronome. Being a total failure when it comes to writing programs in Mallard Basic, I wondered if perhaps an 8000 Plus reader could write a metronome program? The user should be able to set a ticking rate in crotchet beats per minute. Could the PCW's bleep cope I ask myself?

8000 PLUS

A nice idea. Although you can build metronomes from squeegy bottles, sticky back plastic, knitting needles and chewing gum, the idea of a PCW version is mighty appealing. Can anyone come up with such a program? If you think that you can do it you should send your effort to the normal Tip Offs address and mark the envelope 'Click track'. Because of the nature of the season we have decided to send the usual crisp five pound note to the charity of your choice.

The PCW can do many things but can you make it keep time like Sir George Solti or Simon Rattle?

Degrees of excellence

My new PCW9512 cut sheet feeder works very well, but.... I tried to type 16° as an abbreviation [illegible] give me the degrees sign. I got a symbol which shows up on the screen but does not print out.

I checked the WHEEL.TXT document in Group 1 of the Sheet Feeder Start of Day Disc and this shows that [EXTRA]+H will give the degrees symbol, although as I found out - it doesn't. I thought it might be useful to users to know that [ALT]+7 will produce the required symbol.

Sylvia Martland
Merseyside.

8000 PLUS

Has anyone else any specific 9512 cut sheet feeder tips?

Nice header

My trouble seems so minor that I am loathe to approach you but I trust that you will come to my rescue. I am using LocoScript2 on an 8256 and I want to know how to put a header on the first page only and number all pages in the footers. It appears to me that I am only offered a choice of putting the header on all pages if I wish to number all pages.

The problem has arisen because I have been trying to get the first page of a long document on one side and I can only do this by using all the spaces available to me on the header. I do not want the heading to appear on any other page but I do need to number all pages as it is a legal document and I wish to demonstrate that all pages are present.

Geoffrey Catlow
Huntingdon

8000 PLUS: *Pen and paper at the ready? This is how you do it:*
1) Create a document as usual. Then press f1 for Document Setup.
2) Once in Document Setup, press f[5] for Header/footer options.
3) Set the header and footer options as follows: Header and footer 1 should be set for the first page only. Your text will go in here. Leave Header 2 blank as this will go at the top of all other pages. Remember to page number, using [+]PN, both footer 1 and footer 2. Don't forget to use the page numbering symbols (details of which are found in the manual)
4) Finally enable all headers and footers.
5) Return to your document and save all this as a template before going ahead with the writing for real.

Three steps to Header. Remember to include the page numbr symbols otherwise...no numbers.

Stitched up

I have decided to have a go at using The Desktop Publisher for counted cross stitch designing. The grid was surprisingly easy to reproduce. I chose the size carefully - 8 pixels high by 16 wide. This means that each press of the cursor key will move the cursor one square.

That keeps everything nicely in sync and makes filling in the pattern very easy and quick. I saved a copy of the empty grid before I did any designing, ready for future use.

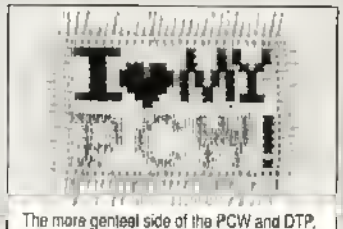
Then I needed symbols to represent colours. Once I had done one for each symbol width I made using the MAGNIFY option - I used COPY to put them where I wanted them in the grid. Finally I labelled the colour key. To correct mistakes, I simply copied an empty square over the error.

Thickening every tenth grid line - quite a fiddly job using LINE - makes counting squares a lot easier when embroidering. I did that when everything else was finished. It was then back to the Page Editor and time to test the results with a printout, needle and thread.

The main drawback with this system is the size of the grid. You can only see 34 by 24 stitches at any one time on the screen. A full page window would not be more than 50 stitches wide. However trying to make the grid smaller would leave little room in the squares for the colour symbols. The grid does not print out as a true square either; it is roughly 29 1/2 squares to 10cm in width but 26 squares to 10cm in depth.

One last comment; turning the subject of cross stitching and computers on its head, I have found alphabets, borders and other designs taken from samplers very handy for computer graphics.

Sue Jones
Shrewsbury



The more genteel side of the PCW and DTP.

Thru' the arch window

After opening a window in Basic using **CHR$(27)+x+top row + left column + height + width**, I find editing a program line inside that window can sometimes cause the delete keys to duplicate part of the program line you are trying to edit.

A way to prevent this is to use the CP/M command SETKEYS. Create a small Ascii file with a four letter name something like **clos**. This file should contain the following line:
E#80 "PRINT CHR$(27)+CHR$(96) ^M"
The [PASTE] key will now close any open windows.

Brian Smith

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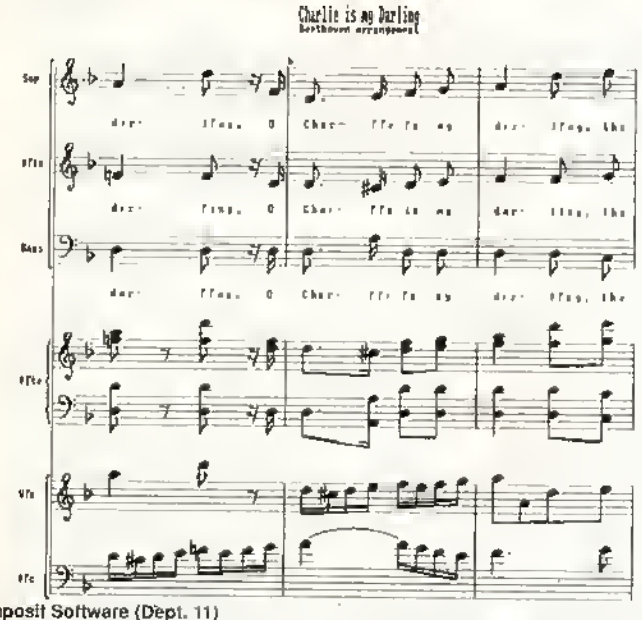

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These pages provide a comprehensive guide to the Amstrad PCW software. Published in three monthly parts, this time it's the turn of Databases, Educational Software, Communications and Programming Languages. We've set out to cover every important piece of software we could lay our hands on, and to give you enough information to decide whether they are suitable for you.

All software will run on both the 9512 and the 8000 series machines, though the former's daisywheel printer cannot print graphical output.

The selection isn't comprehensive, but the software listed here represents what we think is the best of that currently available.

As well as a brief summary of what they do, the main Plus and Minus points for each program are listed – Pluses have a ▲ by them, Minuses a ▼. Those we think are particularly noteworthy have a corner flash. Have fun window shopping!

Databases

There are broadly two different types of database, and which suits you best depends, of course, on what you want it for.

Firstly there's the simple card index substitute. For many home users, this will be the kind of thing you want – all it does is store your address book or stock items so that you can easily look them up.

A more sophisticated option is the programmable database. With these, in addition to allowing simple card index retrieval there is a command language which allows you to analyse the data on the cards. For example, you could automatically add up the money owed to you by all your customers from Yorkshire. To make best use of this kind of facility, you will need to be able to understand a little programming, although it's not too hard really.

A bit of jargon now. A database is said to consist of records – this is just like a card in a conventional card file, with all someone's details on it. Each record is composed of fields – a field is a single entry on a card, like someone's name, or age, or postcode.

The thing that makes a database special is an index. You might be able to hold your address book as a simple list in a word processor document, but if it gets large then this becomes unwieldy. An index means that the database has worked out which order records should be in, so it can go straight to the one you want without looking at lots of others first.

The field that you use as your index (e.g. someone's surname) is said to be a key field, and can be looked up very fast compared to "non-key" fields. A good database will allow multiple keys, meaning that it can look up data just as fast for a variety of types of information.

Masterfile 8000

£49.95 · Campbell Systems · 0378 77762/3

A specially written PCW version of the successful database sold on other Amstrad computers. It is fully menu controlled, and makes good use of the PCWs special screen and keys. It can deal with up to 8 separate data files at once, so can cope with relational databases. Screen (but not printed output) can be elaborately laid out with boxes, lines etc.

PLUSES · MINUSES

- ▲ Works fast
- ▲ Wide range of Layout options
- ▲ Handles 'relational' files
- ▲ Plenty of good example files
- ▲ Can do arithmetic calculations within its records
- ▼ Capacity limited by size of M drive – best on an 8512
- ▼ Takes a while to learn all the features

At Last Plus

£39.95 · Rational Solutions · 0566 81511

At Last Plus is a full-featured database that is excellent value for money. It does what Cardbox did, with much better reporting facilities, and can sort too. You can do simple totalling of columns, but not general arithmetic on fields in a record. A good general purpose database.

PLUSES · MINUSES

- ▲ Good screen editing facilities
- ▲ Constants enable insertion of repetitive data
- ▲ Good on storage space - ideal for 8256 owners
- ▲ Handles names and addresses well
- ▼ No arithmetic calculation in fields
- ▼ Setting up the database is at first confusing
- ▼ Good, but not that good

Cambase II

£49.95 · Cambrian Software · 0766 831878

New version of the old favourite PCW database. Most important change is the Copy Filespec facility. You can set up a new database with potentially more entries than you've made provision for using the information from the original database. You can also change the fields to suit another set-up.

PLUSES · MINUSES

- ▲ Quick and efficient to use
- ▲ You can set up a database blueprint (Filespec) which you can test thoroughly before entering data
- ▲ Includes powerful features like conditionals, loops, field validation, and specified layouts
- ▲ Simple parts of the program are well covered in the manual
- ▼ Can't use the memory bad news for 8256 users
- ▼ You have to guess how to use the more advanced features
- ▼ Not much room for prompts
- ▼ Tendency to crash occasionally in Filespec

LocoFile

£29.95 Locomotive 0306 740606

The indexed pop-up database that runs from within LocoScript 2 and that goes even further toward turning LocoScript 2 into a completely integrated software package. Unlike most databases empty records take up almost no space on disc. This allows large record cards to be defined even if they won't always be used. Records pop up very quickly without having to exit from your document. Works best when used in conjunction with LocoMail.

PLUSES · MINUSES

- ▲ Very easy to use
- ▲ Unusually efficient use of disc space
- ▲ Can alter existing index - a very powerful feature indeed
- ▲ Automatically upgrades your LocoScript, LocoMail and LocoSpell to version 2.2
- ▲ Sample databases help you get a better feel for the program
- ▲ Very flexible when designed the record format
- ▲ Carries out searches on partial strings - ideal for when dealing with incomplete information

Chibase 3.0

£29.95 Chiasma 06333 60996

The updated version of the 'free format' database. You type in the text, mark the words to be indexed and treat the files as a database. The updated version allows you to import and export ASCII data files and a chain delete option enables you to work your way methodically through the database deleting the records you don't want while keeping those that you do.

PLUSES · MINUSES

- ▲ Good amend, sort and recall features
- ▲ You can edit without a word processor
- ▲ Searches quickly through data
- ▲ Great for storing large amounts of data where the subject matter is variable
- ▲ Useful record template
- ▼ Can't run from M drive

Delta

£99.99 · Compsoft · 04868 25925

Delta is another of the heavyweights, like dBase II and Condor, but unlike them is fully menu driven. Although the screen layouts are fully flexible, there is a default 'quick' layout so you don't have to sweat at defining your own. It could use better record indexing facilities. Particularly good for writing applications, once you have ploughed through the large manual.

PLUSES · MINUSES

- ▲ Records can contain up to 90 fields, plus groups of fields that may be repeated
- ▲ Screen layout can be user defined, or "quick" mode used
- ▲ Single page letter writer provides detailed mail merge
- ▲ Processes can be defined, and run from user defined menus, for ease of use by others
- ▲ Very full, and quite readable, manual
- ▼ Only one field may be used for indexing
- ▼ Very big program – a PCW8256 would be hard pushed
- ▼ Some of the menu operations are unforgiving to errors

Mini Office Professional Plus

£39.95 · Database Software · 0625 878888

The Mini Office database retains its original format. It's a pretty standard card index type, similar to First Base. Good range of selection operations and arithmetic on fields. Can sort over a combination of fields and print out a variety of smart layouts, and you can have up to 255 fields. No import or export of data.

PLUSES · MINUSES

- ▲ Easy to use and intuitive
- ▲ Can use the data in the word processor
- ▲ Powerful selection and sort facilities
- ▲ Arithmetic on fields
- ▲ Test print facility lets you check your labels will print okay
- ▲ One command makes global changes
- ▼ Can't import or export data

Pocket InfoStar

£69.50 • MicroPro/DRA • 0386 841181

Consists of two large programs, DataStar and ReportStar (both available independently). DateStar is a conventional database, with screen card layout and indexing. ReportStar then generates the printed output, either from DataStar or CalcStar files. Powerful if you can use them, but the suite is horrifically overcomplicated, and the documentation just incomprehensible.

PLUSES • MINUSES

- ▲ DataStar is a quite good database with indexing and calculated fields.
- ▲ 'Transaction processing' feature allows cross referencing of data files.
- ▲ Can be integrated with other Pocket products, eg WordStar.
- ▲ Can take up to 255 fields per record
- ▼ Two volume manual set is very badly organised.
- ▼ There are separate programs to run for form design, data entry and reporting
- ▼ Operation is all by obscure command keys, à la WordStar.

dBase II

£99.00 • Ashton Tate/First Software • 07357 5244

The WordStar of database packages. Recently licensed "cheaply" for Amstrad machines, dBase II is a market leader in business computing. As you would expect, this means it is very powerful but very complex. It has a procedure language to allow you to write programs to manipulate the data, and you can construct index files for really fast access to large databases. If you can make the effort to learn it, it'll serve you well.

PLUSES • MINUSES

- ▲ Powerful command language for customised programs
- ▲ Indexing facility makes large databases fast to handle
- ▲ Can handle very big databases
- ▲ The data can be fairly easily altered after its entry
- ▼ Manual is daunting (but there are plenty of independent books on the market)
- ▼ Can't easily alter the screen record layout
- ▼ For an expensive package, you still only get 32 fields per record
- ▼ Generally unfriendly unless you have some programming skills

First Base

£29.95 • Minerva • 0392 437756

Billed as a simple database for the first time user, First Base is quite a competent cheap card index. The manual is computer printed, and weak on diagrams which doesn't help things. One weakness is getting printed results out of First Base – either you settle for crude lists, or you have to create a template in LocoScript which is awkward to do. But overall, it's pretty good value for money.

PLUSES • MINUSES

- ▲ Can alter the index field at any time
- ▲ Simple to use screen editing make data entry easy
- ▲ Good value as a simple card index lookup system
- ▲ Can easily browse through the database picking out a set by hand
- ▼ Manual is badly laid out and generally difficult
- ▼ Producing printed output is awkward

Sagesoft Retrieve

£70 • Sagesoft • 091 2131555

A high-power package that is relatively easy to use with password security if desired, calculations, automatic counting or deletion of sets of records satisfying given conditions. It also has sophisticated sort and select commands, and can change the structure of an existing database. All this is done by a set of commands rather like a programming language. Printed formats are rather limited though and the program insists on using both drives, making use on an 8256 impractical.

PLUSES • MINUSES

- ▲ Easy to use for a powerful package
- ▲ Advanced sorting and selection commands
- ▲ Subsets can be written to files
- ▲ Can count or delete subsets with one command
- ▲ Labelling/mailmerging routines included
- ▲ Can change structure of existing database
- ▼ Impossibly big program for 8256
- ▼ Printed output limited – must use mailmerge

Script2Base/Text2Base

£29.95 each Encyclasoft 0270 811890

Two free-form databases to be used with LocoScript and Protext respectively. Complete rewrites of FT=DB, the beauty of these databases is that you first create all your text on the word processor and import it as an ordinary (non-ASCII) text file into the database. You then mark all the words you want to see indexed as keywords so that you can go on to compile indexes and carry out searches.

PLUSES • MINUSES

- ▲ Very easy to use
- ▲ Allows you to organise your collection of discs like an encyclopaedia
- ▲ Can construct new files made up of selected parts of existing ones
- ▲ Can send any part of a document to the printer on a line-by-line basis
- ▼ No text-editing facilities within the databases themselves
- ▼ Dreadful documentation

Smartcard

£59.95 • Focus Computers • 0272 420109

A conventional card index database which is now the nearest thing available to Cardbox. Small and fast, you can sort the records, index up to three fields and do simple arithmetic in fields. Can't put background text (eg. titles) on records or printouts.

PLUSES • MINUSES

- ▲ Good clear screens
- ▲ Plenty of on screen help
- ▲ Fast and high capacity
- ▲ Easy to use
- ▼ Can't put background text on printed reports
- ▼ No way of exporting data for mailmerge

Magic Filer

£69.95 • Sagesoft • 091 2131555

Magic Filer is not a true database, but is a structured filing system. Information is split into a hierarchy of categories, and tagged with a keyword which is not stored as part of the data. You can browse through the data, but it will get tedious if you find it needs updating regularly. Many applications will find Magic Filer restrictive.

PLUSES • MINUSES

- ▲ Good for browsing through data when you don't really know what's there
- ▲ Data can be declared 'read only' to protect it from alteration by other browsers
- ▼ The basic filing system is weird but not wonderful
- ▼ Editing data once in Magic Filer is awkward
- ▼ The documentation is far too brief
- ▼ You can only have one database per disc

Microfile (Sold in The Micro Collection)

£49.95 • Saxon Computing • 0401 50697

Microfile is a well implemented simple database, driven by plenty of menus and on-screen prompts. It's fast and has good screen control, although it has some size restrictions. Microfile comes as part of a software suite, "The Micro Collection", which is good value (Microfile, Microwrite, MicroSpread, Flexilabel and Leck-It)

PLUSES • MINUSES

- ▲ The price includes competent word processing, spread sheet, labelling and encryption programs
- ▲ Plenty of menus and on screen prompting
- ▲ Very flexible formatting for screen layout and printing
- ▲ Numeric fields can be expressions to be calculated
- ▲ Indexing is fast and can be on several fields
- ▼ Maximum number of fields per record is only 20
- ▼ Limited facilities for totalling up fields in a database

Educational

Educational Software is designed as an aid to traditional teaching, not an alternative. Its main use is in re-inforcing traditional learning done elsewhere and providing the stimulus of a different approach. It can also be especially useful in rote learning and improving the speed at which problems can be solved.

Iankey Crash Course

£24.95 • Iansyst • 01-607 0187

A fairly traditional typing tutor, taking you through basic keyboard exercises. There's a lot of explanatory text, which gets in the way second time around. Definitely competent, but a bit boring.

PLUSES • MINUSES

- ▲ Mostly avoids boring letter drills
- ▲ Very full on-screen information guides you along
- ▲ "Fast" option cuts out some text if it gets repetitive
- ▼ Not particularly imaginative use of graphics
- ▼ It doesn't always ensure that the cursor is properly aligned with the exercise text

2 Fingers Touch Typing

£24.95 • Iansyst • 01-607 0187

Despite its provocative name, a useful typing tutor in that it specifically caters for people who can already get by on keyboards with two fingers. You are gradually introduced to touch typing, so your speed doesn't drop while you learn. Fills a necessary slot in the Typing Tutor market.

PLUSES • MINUSES

- ▲ Suitable for improving two finger typists without much drop in speed
- ▲ Full on screen instructions
- ▲ Exercise material is interesting text, not letter drills
- ▼ Explanation text is annoyingly verbose in some lessons
- ▼ It doesn't always ensure that the cursor is properly aligned with the exercise text

Giantkiller

£14.95 • Topologika • 0733 244682

A mathematics adventure game loosely based on Jack and the Beanstalk. Lots of intriguing puzzles which should stimulate any student up to GCSE standard. Not the best adventure game ever written but great for making mathematics fun!

PLUSES • MINUSES

- ▲ Puzzles plausibly integrated into scenario
- ▲ Progression of game is simple and well defined
- ▲ Puzzles introduce a lot of valid mathematics
- ▼ Program understands only very simple commands
- ▼ Saving a position takes a move – can be fatal
- ▼ Won't be of particular help in exams

Animal Vegetable Mineral
World Wise

£14.95 each • Bourne Educational • 0794 523301

Aimed at the younger market, 7-15 year olds. Both these programs work by learning as the child uses them. Think of an object and the computer tries to guess it. If it is wrong, the child is asked for a question which would allow the PCW to be right next time, and it learns.

PLUSES • MINUSES

- ▲ Can be used as many times as the child's imagination holds out
- ▲ Performance can be analysed by a teacher after a session
- ▲ As you build up a base of objects and questions, they can be saved for reuse
- ▼ It needs a lot of typing, hence a lot of supervision
- ▼ The PCW starts with only two objects known, so it takes time to get going
- ▼ Documentation has hardly been altered from cassette based versions
- ▼ Since it is for young children, more imaginative use of the screen would be nice

Better Spelling

£16.95 • School Software Ltd • 010 353 61 45399

This is a spelling course aimed at the 8 to adult age group. It consists of a series of well organised, short lessons each dealing with one topic, like plurals or which version of their/there/they're to use in a sentence. The use of the PCW screen is rather unimaginative, and doesn't hold your attention.

PLUSES • MINUSES

- ▲ Well thought out lessons to emphasise particular points
- ▲ Teaches words in a sentence context as well as in isolation
- ▲ Lessons can be picked in any order from a menu
- ▲ Seems to be proof against mischievous key pressing
- ▼ Boring use of the screen doesn't grab interest
- ▼ No instructions come as to how to use the program.

Chemistry • Biology

£22.95 each • School Software • 010 353 61 45399

These two are fairly traditional question-and-answer tests. You are faced with a choice of 10 topics, and then asked 10 or so questions each, where you have to fill in the blank in a statement. There are preamble notes beforehand, and if you get it wrong you are given a clue. Aimed at 12-16 year olds.

PLUSES • MINUSES

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NEW IMPROVED DESIGN WITH NEW CONFIGURATION OPTIONS, AVAILABLE FOR THE PCW 8256, PCW8512 & PCW 9512. FULLY COMPATIBLE WITH LOCOSCRIPT 1 & 2

Supplied with :- NEW HARD DISK CP/M & LOCOSCRIPT, BACKUP SOFTWARE (TO FLOPPY DISK A: or B:), PARK UTILITY TO ALLOW EXTRA PROTECTION WHEN WEB IS IN TRANSIT, USER MANUAL, FORMAT & PARTITION SOFTWARE

The software for the 1.2 series WEB has been completely rewritten in consultation with Locomotive Software and therefore has no restrictions with regard to CP/M and LocoScript. The software provided allows you to partition the WEB in any of the following ways.

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2) 2 drives of 10 megabytes as drives C: & D:
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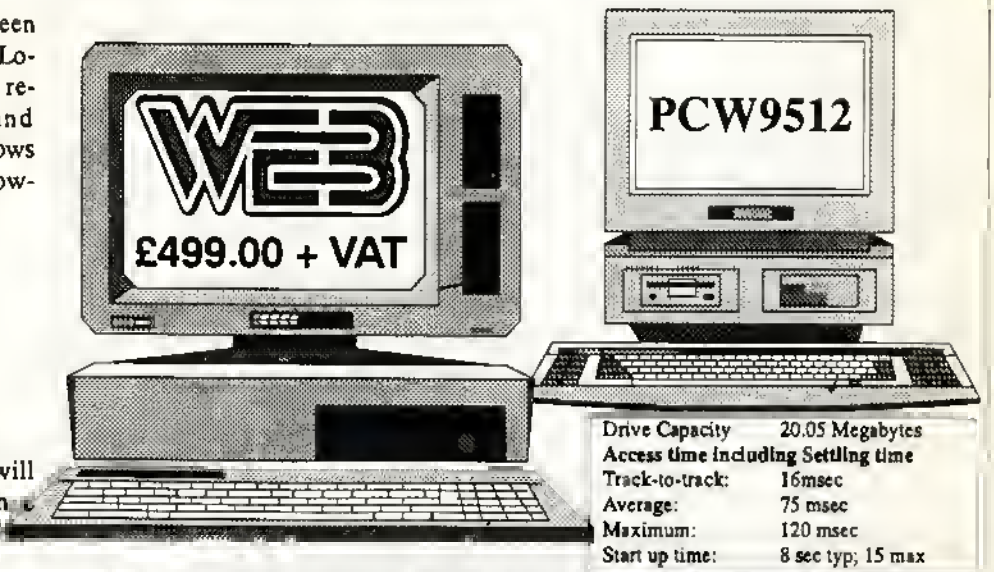
4) 1 drive of 10 & 2 drives of 5 as C:, D:, & E:
5) 4 drives of 5 megabytes each as C:,D:,E:, & F:



Drive Capacity	20.05 Megabytes
Access time including Settling time	
Track-to-track:	16msec
Average:	75 msec
Maximum:	120 msec
Start up time:	8 sec typ; 15 max

LIFE AFTER THE PCW

As we use industry Standard parts you will still be able to use your WEB if you chan[illegible] computer in the future to a PC or compati[illegible]

Access

Timatic

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Fax: 0329 237 051

VISA

▲ Questions would challenge a GCSE pupil well
▲ Preamble notes introduce topics
▼ The fill in the blank questioning style has little flexibility for different answers
▼ No option to add questions for a specialised syllabus
▼ Some careless errors, like incorrect facts and hard to decipher chemical formulae

Micro Maths
£24.95 · LCL · 0491 579345

Supposedly covering 8 to adult ages, this seems an O-level type program, covering topics from calculus to tables. A good implementation on the PCW with proper use of the screen. Questions are picked at random from a pool, so may repeat but never run out. Replies to questions are typed in mathematical notation, like X^2+3

PLUSES · MINUSES
▲ You can pause to use BASIC as a calculator while you think
▲ 'Unlimited' question set
▲ Comes with a 'free' book of AEB O level questions
▲ Good hints and explanations
▼ Questions in a topic repeat occasionally
▼ Some frills, like the clock and beeper, are annoying
▼ No flexibility to add questions for a particular syllabus

Amstat 1,2,3,4,6 and 7
£28 - £40 · SC Coleman Ltd · 0530 415919

A suite of six statistical routines including a business analysis program, forecasting and resource management. Individual prices range from £27.95 to £39.95. Very sophisticated, and perhaps because of that, a little awkward for beginners.

PLUSES · MINUSES
▲ Good range of statistical functions
▲ Good manual
▲ Can produce good quality graphical results
▼ Some editing procedures very long winded
▼ Needs some expertise to use properly
▼ Weak on checking that input data is reasonable.

Yes Chancellor!
£14.95 · Topologika · 0733 244682

Wait! Don't skip over Yes Chancellor! because it calls itself an 'economic simulation' program. Instructive and fun to use, you type in your annual budgets (tax rates, public spending etc.) and see your popularity plunge and the economy crash. Great for economics classes, also an amusing game in itself.

PLUSES · MINUSES
▲ Simple but effective model of the economy
▲ Comes with booklet explaining economic principles
▲ Great for teaching economic and political pragmatism!
▼ Can get boring as a game
▼ You can't adjust the model of the economy, so it can be too simple

Ultimate Quiz
£14.95 David Greenhough Computing 0274 640764

An educational aid for school age children. Two quizzes on a multiple choice format are available on the one disc. The first one is a general knowledge quiz, the second is based on the Highway Code. You can play against a timer and can set the level of difficulty.

PLUSES · MINUSES
▲ Optional noughts and crosses game included with either quizz
▲ Incorporates an editing file for easy updating of questions
▲ It's very versatile up to 8 people can play
▲ Provides hours of general knowledge fun
▲ None of the questions are repeated
▼ Some of the questions are a little esoteric

Supermaths
£16.95 Abacus Software 0689 36293

Specifically designed for the PCW, this program exercises basic numeracy skills in children. Questions are asked in quick fire volleys of ten and cover all four operations (addition, subtraction, multiplication and so on). Scores are automatically recorded.

PLUSES · MINUSES
▲ Special original Test and Worksheet modes included the latter is ideal for teachers
▲ Very efficient scoring method
▲ Numeracy level is very basic
▲ New version has enhanced screen displays
▼ Some of the questions may start to look familiar after a while

Language Tutors
£19.95 each Kosmos Software 05255 3942/5406

Four programs with identical formats to help you learn French, Italian, Spanish and German. They can be used just as effectively by students of those languages learning English too. Very versatile series of programs and useful adjuncts to conventional language learning.

PLUSES · MINUSES
▲ Can edit the lessons yourself to include new words
▲ Useful self test option
▲ Completely bi lingual packages
▼ Purely for vocabulary learning no grammar lessons
▼ Would have been more useful if they had also included audio cassettes

Maths Mania
£16.95 School Software Ltd 010 353 61 45399

For children between the ages of 8 and 12, this program offers 5 levels of difficulty in multiplication and 2 in division. A very good program for exercising basic numeracy skills and for practising some mental arithmetic.

PLUSES · MINUSES
▲ Program provides a chirpy feedback on the score of the user
▲ Large attractive numbers appear on the screen
▼ Surprisingly enough, no addition or subtraction exercises are provided
▼ Screens could be made more visually exciting for the younger users

Better Maths
£16.95 School Software Ltd 010 353 61 45399

A continuation of Maths Mania for the next age group 12 to 16 year olds. Topics are very varied and cover, among others, statistics, simple interest and algebra. Each topic consists of a series of ten multiple choice questions. At the end of each set, the percentage scored is shown.

PLUSES · MINUSES
▲ Realistic level of difficulty practised
▲ Program makes a first class revision aid

Communications

Communications is one of the glittering areas of computing, gurus would have you believe. It can provide a fascinating hobby for 'hackers', but more importantly it is a valuable business tool.

'Electronic mail' is just what it says: you use your PCW to send messages, which can be documents thousands of words long, to others on the electronic mail system. The best known system of this kind is Telecom Gold, which also allows you to send telexes. Another major system is Prestel, which is more of an information provider – you can read share prices, weather information and other news direct from your phone line.

For any professional service, you pay a registration fee, plus a connection charge – typically around 10p per minute you use the system. Of course, your phone bills are extra. For hobbyists there are also 'Bulletin boards', which are effectively a kind of private electronic mail system run by a system operator (a 'sysop' to those in the know).

To use any service, you will need to buy a modem and an interface. A modem allows you to send computer signals down a phone line, and the interface gets the signals from your PCW to your modem. The pair will set you back £200 or more. Once done, you need some software to allow you to send and receive data, and it is this software reviewed below.

Electronic mail services just send strings of characters to and fro, whereas Prestel is a 'Viewdata' system, meaning it sends pictures and graphics too. Software needs to do more to receive Viewdata graphics, so if you want to use Prestel make sure your software is up to it.

8256UKM7.COM
Public domain (ie. free!)

P.D. software documentation is often poor but this program has an above average document file. UKM7 was written to support ASCII file transfers using error correction and as a dumb terminal either for use over the phone or between two Amstrads. Between two PCW's file transfer is possible at a staggering 31,250 baud which is even faster than PIP! Easy to use for beginners and better than KERMIT, UKM7 provides a cheap and excellent way to communications after you've got fed up with the PCW's MAIL232. 8256UKM7 is available from the Public Domain Special Interest Group, or most bulletin boards supporting the PCW machines.

PLUSES · MINUSES
▲ Cheap! (the price of a phone call)
▲ Easy to use, and helpful menus
▼ Modem7 version of Xmodem error checking supported
▼ Single file and Batch Mode transfers
▼ "Quiet" mode for slightly faster transfers (on-line transfer progress report disabled)
▼ Only ASCII, no Viewdata
▼ You need to find a PD software source (eg. use a modem and MAIL232 software)

Mini Office Professional Plus
£39.95 · Database Software · 0625 878888

The comms package is as comprehensive as anything else on the market. It can display both ordinary text screens and the 'Viewdata' block graphics used by Prestel. You are offered baud rates from 75 to 9600, separately set for transmit and receive, straight terminal emulation for use with Telecom Gold, and XMODEM and KERMIT file transfer protocols for error-proof transfer of long files. Would be well worth the money just by itself – and of course you're getting four other very good programs as well.

PLUSES · MINUSES
▲ Very comprehensive – a genuinely useful comms package
▲ Ordinary text and 'Viewdata' block graphics
▲ Can save setups under names and recall them, so you only need work out your baud rates/parities once
▲ You can set keys to return strings, such as Telecom Gold passwords
▲ Comes preconfigured to use Prestel and Telecom Gold

Chitchat E-Mail/ Viewdata/Combo
Sagesoft · £69.99/£69.99/£99.99 · 091 284 7077

Two communications programs for the 8000 series machines that have been around for a good time now. Most of the features you will need are here: message text editor, preprogramming unattended tasks(if you use a suitable "intelligent" modem), directory of stored numbers, copy to printer, and a very useful connect time clock so you can watch your phone bill climb! E-mail is used for simple text phone links like Telecom Gold, whereas you'll need Viewdata if you want to use Prestel. The Combo pack contains both E-mail and Viewdata.

PLUSES · MINUSES
▲ Good, clear documentation
▲ Easy for first timers to use
▲ Built in text editor for pre-sending message preparation
▲ Pre-definable tasks executable at any preset time if unattended.
▼ No error corrected file transfer (i.e. Xmodem or CRC)

Dialup
£89.99 · PMS Communications · 021-643 7688

Offers both E-mail and Viewdata operations. Very easy to use, and offers an XMODEM transfer protocol unlike Sage ChitChat. If you are buying a modem too there are some cut-price bundled deals to be had, eg. the Miracle Technology WS4000 modem.

PLUSES · MINUSES
▲ Simple to use
▲ Comprehensive file transfer commands, including XMODEM and the increasingly popular KERMIT
▲ Runs from the M drive
▼ Manual is not PCW specific, and the references to 5.25" discs are tedious

COMM+

£86.25 • NewStar • 0277 220573

This single package combines both ASCII and full Viewdata block graphics and Telesoftware downloading. A very powerful command language allows you to look for particular messages coming in and take actions, even while doing other things. Its use is only limited by your programming ability.

PLUSES • MINUSES

- ▲ Very comprehensive and well indexed ringbound manual
- ▲ High quality Viewdata graphics
- ▲ Well presented on-line help menus for use by beginners
- ▲ Autodialler program works with most modems
- ▲ Telesoftware downloading facility, with CRC/Xmodem checking
- ▲ Very powerful command language, doesn't need much programming skill to learn
- ▼ Not recommended for absolute beginners to communications

Programming

Programming languages come as either 'compilers' or 'interpreters' – compilers pre process the program into machine code, so are much faster. The PCW's standard Mallard BASIC and LOGO are both interpreters. Compilers are generally more cumbersome to use than interpreters, but have various benefits for serious programmers.

With language compilers in particular it is difficult to discover whether they are reliable and efficient without spending many weeks working with them, impossible for a brief review. If you use a specialised programming language and have any comments that would help us compile a good software life entry for it, we would be pleased to hear from you.

HiSoft C

£39.95 • HiSoft • 0525 718181

A very good C compiler, fast, produces good compact code. It comes complete with the HiSoft integrated text editor ED80.

PLUSES • MINUSES

- ▲ Compiles program rule ordinary CPM .COM file
- ▲ Produces compact code
- ▲ Fast and inexpensive
- ▲ Comes with integrated text editor
- ▼ No floating point arithmetic

Arnor C

£49.95 • Arnor • 0733 68909

Good compiler with floating point arithmetic, but not as fast or as cheap as HiSoft C.

PLUSES • MINUSES

- ▲ Excellent integrated text editor
- ▲ Floating point arithmetic
- ▼ Cumbersome to produce .COM files, needs special run time support program
- ▼ HiSoft C is faster and cheaper

MIX C

£29.95 • Advantage • 0242 224340

American C compiler. You can buy a full screen editor with it for £19.95 extra. Also machine code assembler & examples for £8.95 each.

PLUSES • MINUSES

- ▲ Features an excellent C tutorial
- ▲ Comprehensive implementation and massive manual
- ▼ Not for the newcomer to programming

Pascal 80

£39.95 • Hisoft • 0525 718181

A standard full Pascal compiler that produces compact code. Comes with the ED80 text editor and a stand alone programmers editor.

PLUSES • MINUSES

- ▲ Well integrated text editor – when you hit a compilation error you are returned to the correct point to edit it
- ▲ Short compilation time, economical on memory
- ▼ Manual makes no attempt to teach you Pascal

Hisoft Forth

£19.95 • Hisoft • 0525 718181

Forth is an unusual language, somewhere between assembler and C. This is one of the few compilers available for the PCW.

PLUSES • MINUSES

- ▲ Comes with a Forth editor
- ▲ Quick and efficient implementation
- ▼ Manual doesn't teach you Forth

The Vicar

£49 • Iansyst • 01-607 5844

A programming tool for serious programmers. If you have a several-hundred line program held in several files on a disc, you can lose track of which variables are used where. The VICAR produces a concordance listing and other diagnostics, to help you find bugs and maintain the program.

PLUSES • MINUSES

- ▲ Easy to use but still flexible through use of options
- ▲ Amstrad versions all at a special low price
- ▲ Good manual
- ▼ Only of value on large programs
- ▼ Limited value to most PCW users (except BASIC buffs)

Modula 2

£45.00 • Hisoft • 0525 718181

A compiler. Modula-2 is the successor to Pascal, good for large programs requiring separate compilation, complete with text editor.

PLUSES • MINUSES

- ▲ Full implementation with extensions.
- ▲ Includes libraries of predefined modules
- ▲ WordStar type screen editor included
- ▼ Compilation process is lengthened and not for beginners

CBASIC

£45.00 • Digital Research •0635 35304

The original Basic compiler from Digital Research, and still one of the best for anyone wanting to produce COM files without abandoning their investment in Basic.

PLUSES • MINUSES

- ▲ Easier programming feel than conventional interpreter
- ▲ Very similar to Mallard Basic, so easy to learn
- ▼ No text editor – you need to buy a programmers editor such as ED80, or the public domain VDO25
- ▼ Programs don't necessarily work faster than they would in conventional Basic, sometimes slower

All You Ever ...

£24.95 CP Software 0993 823463

Program is ridiculously entitled All You Ever Wanted To Know About Graphics, the Universe and Everything on the PCW 8256/8512 but were Afraid to Ask. It's for the experienced programmer who needs fast, smoothly flowing and professional looking graphics output. It has a library of machine code routines which you can use in any language from Mallard Basic to machine code.

PLUSES • MINUSES

- ▲ You can produce professional standard graphics
- ▲ Demo programs included on the disc
- ▲ Routines are very wide ranging
- ▲ Excellent value for money
- ▲ New routines of latest versions concerned with printer control
- ▼ Not recommended for beginners
- ▼ Cumbersome to use from Basic

Pascal/MT

£45 Digital Research 0635 53499

A full implementation of ISO standard DPS/7185 Pascal with a number of extremely powerful additions. Is very good for large complex applications both data processing and system control.

PLUSES • MINUSES

- ▲ A very powerful tool for the serious software writer
- ▲ Unlimited program size with modular development and use of overlays
- ▲ Built in assembler
- ▲ Improved string handling (over standard Pascal)
- ▲ Choice of BCD real numbers for commercial/financial use
- ▼ No built in text editor
- ▼ Compiler in general and the manual in particular are not for beginners
- ▼ No graphics

DevPac 80 MKII

£49.95 Hisoft 0525 718181

Version 2 of the PCW hacker's first choice of development system. Substantially upgraded from the original with a new quite powerful debugger, and a Mini Officestyle main menu from which to run the individual utilities or your own finished programs.

PLUSES • MINUSES

- ▲ Powerful assembler producing REL or COM files
- ▲ Good hex facility for Basic programmers
- ▼ Text editor antiquated and clumsy
- ▼ Weak monitor

Maxam II

£49.95 (£69.95 incl. C) Arnor 0733 68909

CP/M machine code development system incorporating an editor, assembler and monitor. It will allow you to disassemble any of the memory banks including extra memory on M drive.

PLUSES • MINUSES

- ▲ Very versatile assembly language programming environment
- ▲ Flexible monitor capable of bank switching, conditional breakpoints and symbolic debugging
- ▲ Tailored to meet all CP/M Plus programming requirements
- ▲ Program can't cope with some undocumented Z80 instructions
- ▲ Program assumes basic familiarity with the Z80 assembly language

NEXT MONTH

The guide continues with the categories of SPREADSHEETS, GRAPHICS and GAMES. The month after that will cover WORD PROCESSORS, ACCOUNTS/PAYROLL, UTILITY and DTP software, and the month after that it's back to this months topics.

Our intention is to keep publishing the three parts of the guide in rotation, updating it each month to include all new products. If you would like to see other sections of the guide, back issues of 8000 Plus are available at £1.75 each.

Meanwhile, if you are aware of any significant omissions or errors in the File as published, please let us know. We intend to maintain it as THE authoritative guide to PCW software.

8000 PLUS SMALL ADS!

VENTURES, QUIZ & HILO.
Over 200K of Interactive Entertainment Software for the PCW 8256/8512. Only £12.50. Please write for Demo Disk
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MIDDLESEX GROUP (near M25!)
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DISKS DAMAGED? DATA LOST?
Simply call Dave Smith of **DAVE'S DISK DOCTOR SERVICE Ltd on 089283 5974.**
No fix, no fee.
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Wilts SP2 7TG
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Displays changing telephone call cost whilst phoning. Many other features. S.A.E. for details. £6.95 for disc with TELECOST BASIC 8256/8512 program.
J.C. Brown,
20 Hillside Drive Macclesfield SK10 2PL.

HI-TEC EC2400
plus Modem, Quad Speed, Hayes, Battery Backup, MNP5, £299.00 Inc.
Hi-Tec Modems Limited Tel: 0733 897333.

DATADIARY: A4/Filofax versions/ Pocket Datadate: Birthday gazette (Locoscript 2). Also Locoscript tuition available (SAE for details): **A4 Ideas, The Old Forge, 66 Curzon Street, CALNE, Wilts, SN11 0DL**

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DATA TRANSFERS:- PCW-BBC-IBM.
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0206 768970

DISC ERRORS!
Lost Data? For recovery send corrupted disc, blank disc and £17.50 to:- **D. Garvin**
23 Fieldway Liverpool L15 7LU
051 - 722-8653

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Private ads cost £7.50 for up to 30 words. (This rate only applies to readers wishing to sell their own hardware or original software or to pass on a message to other 8000 Plus readers)
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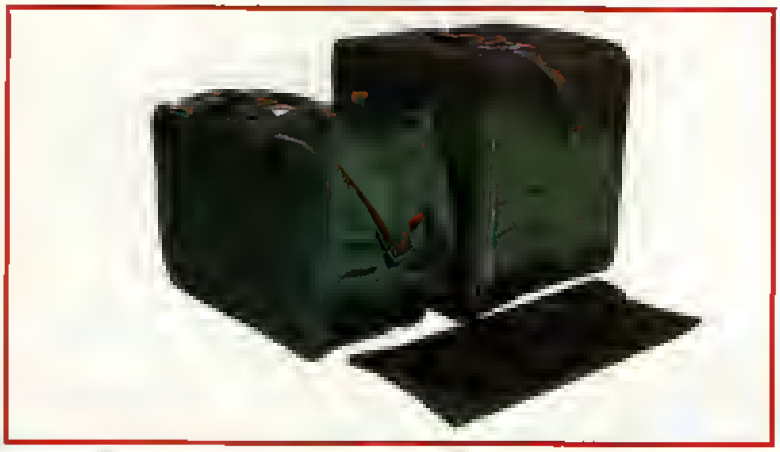

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Spare labels for your 3" discs in four different colours - yellow, green, red, blue.

2. Copi-Reader

This neat and easy copy holder features a unique new clip. It can be positioned on either side of the monitor, and may be swivelled into position for best viewing angle, and then to the side when not in use.

3. Highlighter Pens

For £1.50 you get green, red and yellow 8000 Plus-stamped pens in a clear plastic wallet.

4. 8000 plus dust covers

Protect your PCW with these specially-commissioned three-piece 8000 Plus covers.

5. 8000 Plus T-Shirt

The Truly Terrific American Royal Blue T-shirt with the honour of carrying our 8000 Plus logo on the left breast. Wear yours with pride and set yourself above the rest!

6. Magazine Binders

A superb gold-embossed green binder. Buy one and watch your collection grow into the definitive library of PCW information.

7. PCW Luggage

An essential addition for any PCW owners who want to ensure against accidental knocks when transporting their computer. Ideal for writers on assignment, businessmen when taking the micro to the office, or salesmen for demonstrations.

High density foam padding and a water resistant nylon exterior make this a strong and safe piece of luggage, along with its adjustable shoulder strap and sturdy carry handles.

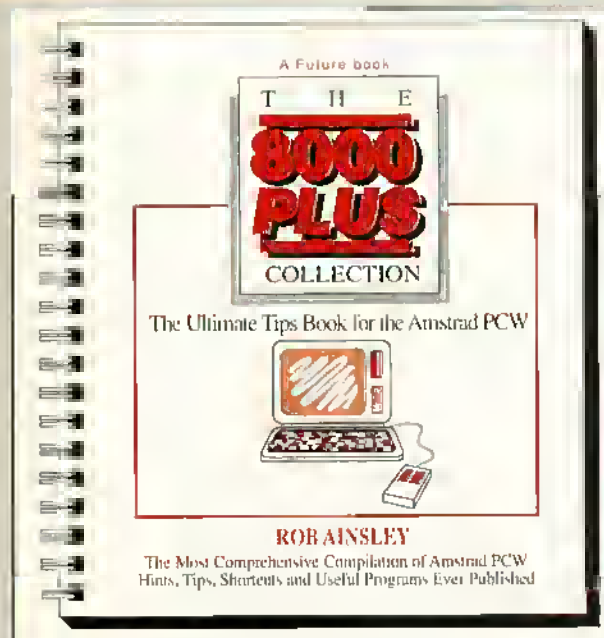
8256/8512

Two separated pouches for the printer and keyboard, that then fit neatly into the large case but leave room for manuals, etc.

9512

Two large cases for the monitor and printer, with a separated pouch for the keyboard that fits in neatly with the printer but leaves room for manuals, etc.

Title	Order code	Price
Disc labels (pack of 20)	8013	£1.00
Copi-Reader	8075	£6.99
Highlighter pens (x3)	8001	£1.50
Dust covers -		
3 pieceset for 8256/8512	8005	£11.95
3 piece set for 9512	8006	£12.95
T-Shirt -		
Medium	8071	£4.95
Large	8072	£4.95
Magazine Binder	8004	£4.95
Two Magazine Binders	8076	£9.00
PCW Luggage -		
8256/8512	8074	£35.95
9512	8073	£49.95



The book is based on the collected tipoffs in **8000 Plus** from issue 1 to the present day and covers every possible facet of PCW use. But it's not just a reprint — every item has been rewritten, re-illustrated and updated where necessary. Plus a whole host of new tips have been added to make this book the essential guide to PCW use.

Each tip has been written to stand alone — easily followed by even the absolute beginner without having to read other sections first. No 'refer to the manual' or 'see the tip on page 192' here — we tell you exactly what to do, which keys to press, and what happens on screen.

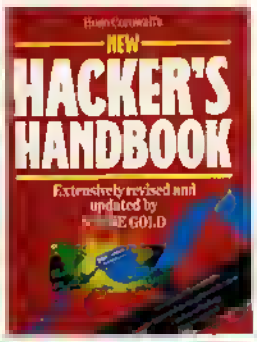
We feel sure that you will quickly come to rely on this unique reference source as the new PCW owners' bible. The information it contains is truly invaluable.

Title	Order code	Price
Tips Book		
Book only	8602	£11.40
Book and disc	8603	£14.40

HACKERS HANDBOOK

from Century Hutchinson

Everything about challenging mega-computers and networks. This brilliant book by Hugo Cornwall has been updated by the infamous Steve Gold (Prince Philip/Prestel hack). This new edition covers viruses, hacking, electronic mail and looks at the new and extensive tools available.
A must for every computer buff.



Title	Order code	Price
Hackers Handbook	8608	£9.95

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Title	Order code	Price
Daatafax -		
Giftpack (inc. binder, tabs and stationary)	8600	£34.95
Software only	8601	£28.95

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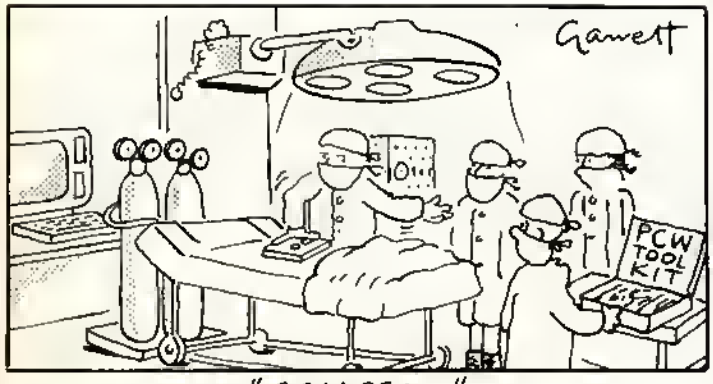
POST SCRIPT

Rapturous reports, rueful resignation or raucous retorts? Responsive readers write in

The Postscript letters continue to arrive in their droves every morning here at the 8000 Plus office. Providing you've got something constructive to say, we'll publish them. And that goes for criticism and questions as well as praise and suggestions. These pages are yours: please continue to fill them. Keep on sending your letters to Post Script, 8000 Plus, 4 Queen Street, Bath BA1 1EJ.



"SCALPEL..."

Speedy recovery

I today received a disc and manual for PCW Toolkit from Moonstone Computing, this being purchased by post the Friday before, 13th October.

Now this was the day all computing machines were supposed to throw of their bits and pieces due to the dreaded virus programs being put about by some really wonderful people.

Was my old faithful the only one to suffer a day early? In the middle of saving a rather large document my PCW decided to throw a wobbly. The much hated "Missing Address Mark" appeared and then the machine locked up and the disc would not re-load. This document was not saved to another disc as I had just typed it in.

After much hair pulling and thoughts like "How am I going to get through the remaining years of my life" I took out my October copy of the best mag since Dan Dare and ponder through it to find help.

I found the advertisement for Moonstone Computing and gave them a phone call. A nice reassuring voice told me that even the complete computer thicko can usually get some of the work back using ToolKit. I immediately sent off my hard-earned work and waited for Postman Pat. (Actually ours is called Alec.)

Even though there are lots of bits and pieces throughout the ToolKit manual I very quickly found page 63. This told me what to do when you get a world shattering problem like the above.

Within 20 minutes I had recovered my data, copying it to a fresh formatted disc. Sigh of relief and most grateful thanks to Moonstone for supplying a program that not only works, but is easy to use, even to a word processor user who doesn't delve into much of the inner workings of CP/M and BASIC. Word of warning though, make sure you have a correctly formatted disc which should be either a CF2 if A Drive 8512 or CF2DD it a B drive disc (or 9512 A Drive)

I can now make use of the document I was in the middle of and I have of course backed up the disc.

Michael Castro
Oxhey, Herts

8000 PLUS: It's happened to all of us some time or another. We hate to be the ones to say this, but you've probably learnt a very valuable - but not too painful - lesson - thanks to Moonstone Computing. Always, always keep back-up copies of important discs. Next month, we'll be looking at the whole range of 3" disc recovery programs and showing you how to navigate your way round some potentially dangerous, uncharted territory.

Academic question

Please could you tell me where I can find the game 'Academy' as I cannot find anyone who sells it in your magazine.

Steve Chapman
Bodmin, Cornwall

8000 PLUS: Your best bet would be to talk to CRL, who produce the game, directly on 01 533 2918. They told us that they have it in stock and that it costs £19.95.

Hard act to follow (part 2)

Concerning the article 'Hard Act to Follow' by Sharon Bradley it seems to me that pirate copying would cease if the software houses charged a reasonable and realistic price for their programs.

Some of these programs are not very clever and the accompanying manuals also leave a lot to be desired. In some cases, a number of the instructions in the manual are wrong and one has to decipher, then alter, them accordingly.

Before you can do this, you have to read the instruction manual in accordance with the leaflet accompanying it as the relevant software house has, by some good fortune, noticed several discrepancies.

I feel Sharon has gone more than a little overboard with her remarks regarding putting a disc into a registered envelope, addressing it to oneself, then keeping it deep inside one's bank vault until required in a court of law.

We could possibly find the following happening, should the prospective programmer be an undesirable type of individual.

'A' decides to write a program, but realising that this will take a year to complete due to a multitude of different reasons, he sends himself a registered envelope containing a blank disc. He finishes the program some twelve months later and swaps the discs, either at home or at his bank.

It seems to me that one of the surest procedures would be to contact one's solicitor, inform him of the work in hand, and when the program is completed, take the disc to him for safe-keeping. Obtain a receipt for the disc. Then he could produce this in evidence - should it be required - stating that this is the disc in question.

Has Sharon any idea as to why this copying takes place? Did she consider this before writing the article or is she simply convinced that to copy is wrong? When I say wrong, that is precisely what I mean. Not illegal. Many bad laws have been passed.

The real crux of the matter lies with supply and demand. As the demand increases, so does the price. This prevents the 'less well off' in our society from enjoying computer programs.

But, Sharon, I am sure that you are not labouring under the misapprehension that all micro computer owners are affluent members of our society?

John Bell
Warley, W. Midlands

8000 PLUS: I'd be the first person to agree when you say that many bad laws have been passed. No matter how unfair they may seem, however, it doesn't alter the fact that ordinary people like you and me have to live within their parameters. Copying software is illegal. We have to remember that.

I'm also well aware of the fact that software - even for the PCW - can be expensive. So are lots of things. I'd like to drive a Ferrari; that doesn't give me the right to go out and steal someones else's - no matter how much I can justify the theft. Living within the law means not buying a computer if you can't afford to run one.

I appreciate what you're saying about the self-addressed parcel routine. Yes, it is an unwitnessed act. But if the envelope with the disc is well-sealed and registered, there shouldn't be any problem. A court of law will be able to tell if a sealed envelope has been tampered with. Your solution - ie, informing your solicitor - is equally valid.

Free transfer

I am writing to you to see if you can explain to me in detail how we can transpose text generated on our PCWs over on to an Apple Macintosh Plus.

The equipment we have consists of a PCW 8512, PCW 9512 using a LocoScript version 2.11. Our Apple

Mac has a system version 6.0.2. and a finder version of 6.1

I look forward to hearing from you in due course.

Max Cruickshank
Devetopment Officer
STR Athclyde

***8000* PLUS:** *It sounds like you've got a similar system installed to the one we use here in the 8000 Plus office. You will need, first of all, to make Ascii versions of all your LocoScript-produced files and then transfer them onto the Macintosh using a combination of Dialup from PMS Communications (021 643 7686) on the PCW and the comms module from MicroSoft Works on the Mac. The two machines need to be connected via the PCW's RS232 and the Mac's RS422. For all the gory details (cable connections and protocols), have a look at this month's tipoff entitled 'Maccies back in town'.*
Quite a few of you have been asking us recently about PCW to Macintosh transfers. If any more of you are interested, then please write to let us know. It might be worth a more detailed look.

The knowledge

I am writing to you for help in trying to locate a book on CP/M Plus. I have seen advertised a book titled *Introduction to CP/M on Amstrads*, but cannot find anyone who has a copy of it left. Any other books I have tried to obtain also seem out of print.

I have been a user of the 8256 now for six months, I have begun to take an interest in the computer side of the PCW. The instruction manual that comes with the PCW is okay for LocoScript but less than useless for CP/M.

It starts as you know, to explain the different functions and then cuts off with the **'THIS UTILITY IS NOT COVERED ANY FURTHER'**. Can you recommend any book that would be of help, something fairly basic please (I'm thick).

Ernest Clifft
Walsalt,
W Midlands

***8000* PLUS:** *Try The CP/M Plus Handbook from Heinemann, Michelin House, 81, Fulham Road, London SW3 6RB. They're on 01 581 9393 and the book costs £14.95. Alternatively, try and get a copy of Sigma's 'CP/M The Software Bus ... a programmer's companion', by Clarke, Eaton and Powys-Lybbe. Hang around long enough in a raincoat and dark glasses on the Tottenham Court Road and you might be able to pick up a remaindered copy of it in one of the bookshops for something like £1.*

It isn't as PCW-specific as the handbook and is a little out-dated, but it will give you a reliable overview of the operating system and its different utilities.

Not a hope

'Help', there I can't put it any simpler than that!

I expect that you have had endless letters concerning the subject of Mini Office Professional Plus. Well, here is another one, not concerning the program itself, I wish that I had a copy!

I ordered a copy some months ago (April) from a company called Cut Price Software, based in Lewes, Sussex, after reading an advertisment that they had placed in your magazine. To cut a long story short, I never even saw my copy, phone calls were hung up on me, letters went unanswered and generally I was avoided like the proverbial plague.

After a lot of detective work I managed to get in touch with their accountants, only to be told that they had gone into liquidation, and that it was highly unlikely that I would recover any of the money that I had paid out (they had cashed my cheque as soon as they got it) as people like me were so low on the list of creditors to be paid out of any capital gleaned from the remnants of the company, that I might just as well forget about it. How many other of your readers lost out to this company in this way?

G Lewis
Proprietor - Clockwise
Enterprises

***8000* PLUS:** *We fear that you may be confusing us with another magazine. Having anticipated the collapse of the company, our Advertisement Manager tells us that 8000 Plus has not run any Cut Price Software advertising at all over the past year. Nevertheless, if you're still interested, Database Software are now marketing a new version of the program, Mini Office Professional (without the 'Plus'). This doesn't have the spell-checker or the thesaurus. See News for further details.*

Moonlit drives

Roy Smiles found that his drive B: would not work out of doors. Although you did not give it, I suggest there is a simple explanation.

Recently, a PCW B: drive of an acquaintance started to give errors. The heads were cleaned with no improvement. Use of the Verity option in Diskkit showed that all the errors were on one side of the disc.

A disc newly formatted in the drive was verified correctly showing that the fault was in the head alignment. Rather than pay someone to service the drive, I decided to try first to realign the head. To do this properly would require a special disc and an oscilloscope. However, using a disc formatted in a good drive, it is possible to obtain an adequate result by lengthy trial and error; the head is moved, and the disc tested using Verity.

A disc drive seeks any required track by moving in steps from a mechanical reference point called the 'track zero adjustment'. This point is provided by the interruption of a light beam by a mechanical arm on the head carriage.

I found it necessary to replace the disk drive cover after every minor head adjustment in order to prevent light falling on the track zero detector and so allow the drive to work.

I would suggest that Mr Smile's problem on his hot, and presumably sunny, afternoon was stray light getting through the ventilation holes and onto the disc drive electronics. This explains why the drive stopped working as he carried it outdoors. You may therefore be surprised to learn that your recommendations of a) rotating the PCW, and b) of using moonlight are both likely to be effective. Restricting use of the PCW to a Thursday seems a bit excessive.

Mark Buckley-Sharp
Middlesex

***8000* PLUS:** *There. And you thought we were just trying to be funny.*

Tolerance level

I understand that you have only just taken over as Editor. However, you should be aware that if answers to letters continue to be as offensive as that to Brian Perry (Uneasy of South Harrow) in the November issue it will not only be your gay readers (and subscribers) that you will lose.

I won't insult the intelligence of yourself or your readers by detailing the ways in which the comments made are quite unacceptable to any reasonable person, but look forward to an apology on behalf of the magazine.

Dr P A Sleigh
Exeter

***8000* PLUS:** *By their very nature, apologies are nearly always meaningless unless delivered by the originator of the alleged offence. Personally, I have no quibble whatsoever with 'queer quips'. Have you ever tried carrying out sustained alliteration on the 'que' sound? As well as meaning homosexual, 'queer' can also be defined thus: odd, singular, quaint, slightly mad, having a sensation of coming sickness - and so on. The use of the word 'pansy' was, I admit, unfortunate. I will take steps to ensure that it never darkens the pages of the magazine again unless used in a strictly horticultural context.*

Sense and sensibilities

I feel I must write in support of your comments to 'Uneasy of South Harrow'. (Issue 38 November page 87). Why do homosexuals think that words that have been around for many years when now used is with reference to their sexuality?

Maybe Brian Perry should refrain from using the term 'booting up' as this could be termed offensive to amputees.

At least I can say that I haven't put my foot in it as I am a bilateral amputee. I can hardly call myself legless as I've got spare one in the cupboard.

Keep up the good work, especially the humour it helps to make it the best magazine on the market.

Ron Stacey
Bristol

***8000* PLUS** *Thanks for your letter, Ron. The subject is now declared - officially, positively and any other way you care to name it - closed.*

Royal flush

Does anybody know how to find the Emperor's Throne Room in Head over Heels. My wife and I have been trying to find it for nearly two years. Ocean Software didn't reply to our letter so you are our only chance.

Richard & Suzie Cox
London

8000 PLUS: *In that case, you're only chance consists of an 8000 Plus awaiting with bated breath their copy of probably what is the finest graphics games around for the PCW. Are you listening, Ocean? Its arrival, promises our Marketing Manager, is imminent. Just as soon as we can, we'll get back to you.*

Loco in motion

Does anybody out there know how to transfer files from LocoScript 2.26 on PCW 8512 - normal Disc Drives - into 'Wordstar V5 professional' on IBM compatible machine - 3.5 and 5.25 disc drives.

This is not my fault I hasten to add. An accident of fate. I need it for my work.

A simple 'can't be done would suffice'. I just need to be sure. Perhaps there are special places where this can be done?

Andrew Holbrook
China

8000 PLUS: *The good news is that it can be done since Wordstar has an Ascii (American Standard Code for Information Interchange) import facility. All you have to do is convert your PCW LocoScript files into Ascii format and send them via a null modem cable to the PC.*

If you haven't got a lot of data to transfer, you can easily get by using PIP at the PCW end and COPY on the PC. For weightier transfers you will need to run, say, PMS' Dialup on the PCW and a suitable comms package on the PC.
If you don't fancy tackling this yourself, there a number of companies over here in the UK that will do it for you. Talk to Phillip Turner at Greymatter, 4 Prigg Meadow, Ashburton, Devon TQ13 7DF (on 0364 5349) or Jenny Dell at Word Print Ltd (01 998 8877). The cheaper of the two is Greymatter who will charge you £10 per 3" disc to transfer, £8 each for two to three discs, and so on.

What's it all about, Alfie?

I have recently bought a second hand Amstrad PCW 8512. There was no manual of program with it - do you know of anywhere I can obtain some?

Eric Coggins
Cheshire

8000 PLUS: *Phone a mailorder company called CPC in Lancashire on 0772 555034. At the moment they've got plenty of them in stock and they cost £13.95 each (including posting and packaging.)*

Staying 'au courant?

What are the advantages in keeping computers 'switched on' days on end? Could you please explain the reasoning behind this practice? Would you recommend this procedure to home users?

R Furlonger
Dorset

8000 PLUS: *Bit of a tricky one, this. Every time you switch your PCW on, you get a surge of electricity which can, in time, damage the components. Every time you switch it off, the components cool down which, needless to say, doesn't do the machine any good either. Leaving the PCW switched on permanently will cause anything that has been left on the screen to burn it. The answer is to leave the machine on permanently and change the screen display from time to time.*

Private property

I would be grateful if you could clear up a copyright matter for me. I have recently created a disc of 'chaos' programs developed using Lawrence Simons' plot and screen save routines and enhanced and rewritten versions of the disc catalogue and Mandlebrot programs published in 8000 Plus in recent(ish) issues. I would like to release this to Public Domain and therefore need to clear up the status of programs published in magazines.

Should they be considered as already released to Public Domain by definition, having been published, or are they under your jurisdiction, or still that of their original authors? In other words, whose permission do I ask?

Full acknowledgements would, of course be included on the disc if it was released, as I hope it might be.

Barry Etheridge
Oxford

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Ascii and it will be granted

I recently purchased "Stop Press", largely on the strength of what appears to be an endorsement of this software, which appeared on page 76 of your May 1989 edition.

I enclose for your information a letter to Stop Press, expressing my concern that their product does not appear to have any significant advantage in working with LocoScript. Indeed it would seem necessary to convert LocoScript documents to ASCII files, to be sure of avoiding the insertion of garbage into pages being made up from previously prepared materials.

I should be grateful for your comments on the matter.

John W Smith
London

8000 PLUS: *The truth of the matter is, Mr Smith, you'd be very hard pushed to find a DTP package that allows you to import text straight into the program from a word processor without first making an Ascii file of it. This is the norm rather than the exception. When the offending page in the May issue states that you can enter text 'directly' into Stop Press, it means straight into the program's text editor (in which case, Ascii files aren't required) rather than directly from a word processor.*

The reel thing

As a newcomer to the art of personal computing/word processing, may I congratulate you on an extremely informative magazine. I've learnt more from perusing 8000 Plus until I came across 'Dataline Computing Services' Wisbech.

A phone call brought me into contact with David Kemp who turned out to be a mine of helpful and useful information. His patience with ignorance of computing technology is praiseworthy indeed.

Taking his advice I ordered, and received within forty-eight hours, two 'Reeltime' tuition courses. One for LocoScript 2, the other for CP/M.

May I advise any newcomer to PCW to get the above course as they are first class.

A E Jones
Harrogate, N Yorks

8000 PLUS: *For those of you who are interested, Reel-Time courses are delivered to you recorded and stored on audio-cassette and disc. The obvious advantage of this is that you can do the training when and where you like at your own pace. The company offers training on using the 9512, the 8256/8512, LocoScript, SuperCalc 2, dBase II to name but a few. Each package costs around £30. Phone 0602 603623 for further details.*

Original prints

Following last month's letters, I would like to set the record straight concerning the support LocoScript 2 offers the Star LC-10 printer.

The first one asked whether any of the special features of the LC-10 could be used from Locoscript 2. The full anwer to this is that LocoScript does not include as standard the ability to embed a printer specific control code into a document. That said, you can use the CHARKIT program on our Printer Drivers disc set to assign control codes to otherwise unused characters, and so output these to the printer. This will destroy the WYSIWYGness!

The letter goes on to ask about the IBM character set. Simply select the appropriate printer driver (either the FX80NLQ driver with the IBM character set [file FX80.#IB] or the IBMPRO driver) and use the DIP switches to set the printer to the correct emulation.

The second letter goes on to refer to the problem that, when printing justified PS text on the LC-10, the print head occasionally pauses part way through a line. This is Locoscript trying to get an even spacing on the printer so that the justification looks right, even though the printer doesn't include a micro-spacing facility. What we do is print the correct-sized gap between words by the use of a sequence of pitch changes and spaces.

Unfortunately on the LC-10 the existence of a pitch change within a line causes the printer to panic and dump out the line so far to the paper before considering the rest of the line.

The reason this 'soft shoe shuffle' doesn't occur with the LX800 driver is that this printer cannot change pitch within a line at all. So it prints the line in one go, but the justification is by complete spaces between the words.

Mr Drohan asks if we support down-loaded characters on 9 pin printers. Here, I'm sorry to say, the answer is no. While some 9-pin printers permit the use of down loaded characters, there is by no means as wide or as consistent support of the facility as there is with 24-pin printers. Although we support ancient Greek (with breathings) on a 24 pin printer, it isn't really commercially viable to extend this to those 9 pins that do support down loading.

And finally Mr Poland of Portugal asks about the large characters provided by the LC-10. This too is a case for CHARKIT! Set up some unused characters to produce the required control codes (say Extra 0) and then where you include that character in a document, the control code will be produced. I can't say we recommend it though!

Sorry to have gone on for so long, but the truth has to be told.

Howard Fisher
Commerical Director - Locomotive Software

8000 PLUS: *Sack cloth and ashes time again.*

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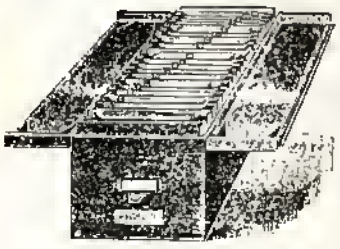

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Go on, make our day; if you're feeling lucky, one of these three Micro Design programs could soon be winging its way to you

COMPETITION

Sharpen up your image with the latest in PCW desktop publishing software

Our Christmas competition gives you the chance to take your place alongside the Murdochs and Maxwells of this world. As you are probably aware, many existing desktop publishing packages show a distinct bias: either the text or the graphics receive the star treatment. It's rare that both components get the chance to look equally good on the finished page. Well, Creative Technology broke the mould when they wrote Micro Design, this month's bonza prize for our three eagle-eyed competition winners.

Hailed as the first 'fully-integrated page processor' for the PCW, this means that both text and graphics components on the page are perfectly combined to produce what is hopefully an easily-legible and professionally-illustrated page.

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So bring your hawk-eyed powers of observation to bear on this month's issue and a copy of Micro Design can be yours. Julie, our Art Editor has cunningly scattered a number of cleverly-crafted seasonal icons throughout the magazine.

All you have to do is keep your eyes open and count them up as you move through the magazine. Write the final number, as usual, on the back of a sealed envelope or postcard and send it to the Seasonal Search Competition, 8000 Plus, 4 Queen Street, Bath BA1 1EJ. Closing date is the 20th December.

Next month

- **Desktop Publishing Special**
Following on from last month's Second Opinion rally, we are currently planning an in-depth comparative study of the most popular DTP packages – and accessories – around for the PCW. We will be taking a look at the programs you use, why you use them and what you like about them. So keep writing in.

- **Disc editors**
Under scrutiny next month are those programs we turn to when all else fails. We take a look at the disc editors which hold the promise of new life for moribund data.

- **Disc doctor**
We talk to Dave Smith of Paddock Wood in Kent who devotes his time to rescuing the discs that the rest of us don't (or daren't) tackle.

- **Biorhythmns**
Never mind the discs; pep up your own performance with the help of a brand new program that's got more highs and lows than a weather chart.

- **Exploding Myths**
We review yet another new game for the PCW which plunges you – the gods willing – into another world of half-forgotten myths and legends.

- **Book Look**
More new books are arriving on the scene to help you get the most out of your machine.

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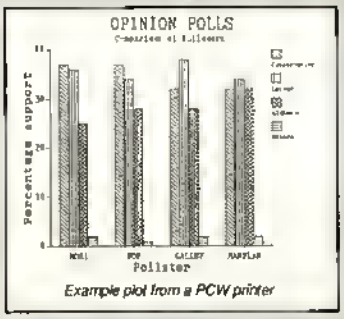

Example plot from a PCW printer

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